JACOBSEN®
A Textron Company

2810632-Rev.G-ES

# Parts & Maintenance Manual
# Manual de piezas y mantenimiento

## Tri King® Triplex Mower with ROPS
## Cortacésped triple Tri King® con ROPS

67043 – 1900D Kubota D662-EB Engine

67043 – Motor 1900D Kubota D662-EB

**⚠ WARNING**

If incorrectly used, this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine

**⚠ ADVERTENCIA**

Si se usa de forma incorrecta, esta máquina puede causar graves lesiones. Cualquier persona que use y mantenga esta máquina debe estar entrenada en su uso correcto, instruida de sus peligros y deberá leer todo el manual antes de tratar de instalar, operar, ajustar o revisar la máquina.

JACOBSEN®
A Textron Company

*When Performance Matters.™*

GB English

ES Spanish

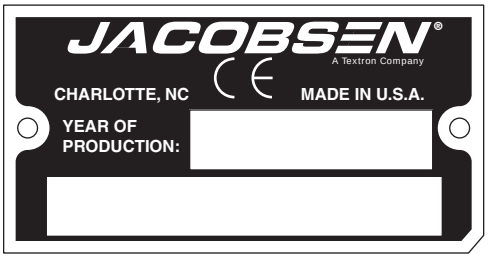
# FOREWORD

This manual contains adjustment, maintenance, troubleshooting instructions and parts list for your new Jacobsen machine. This manual should be stored with the equipment for reference during operation.

Before you operate your machine, you and each operator you employ should read the manual carefully in its entirety. By following the safety, operating and maintenance instructions, you will prolong the life of your equipment and maintain its maximum efficiency.

If additional information is needed, contact your Jacobsen Dealer.

The serial plate is located on the left rear frame rail. Jacobsen recommends you record these numbers below for easy reference.




# Suggested Stocking Guide

To Keep your Equipment fully operational and productive, Jacobsen suggests you maintain a stock of the more commonly used maintenance items. We have included part numbers for additional support materials and training aids.

To order any of the following material:

1. Write your full name and complete address on your order form.
2. Explain where and how to make shipment:
   - ❑ UPS
   - ❑ Regular Mail
   - ❑ Overnight
   - ❑ 2nd Day
3. Order by the quantity desired, the part number, and the description of the part.
4. Send or bring the order to your authorized Jacobsen Dealer.

# Service Parts

| Qty. | Part No. | Description | Qty. | Part No. | Description |
|---|---|---|---|---|---|
| | 550489 | Fuel Filter, Diesel Engine | | 549579 | Hydraulic Oil Filter (2 Req'd) |
| | 5000913 | Air Filter, Diesel Engine | | 3001950 | Pump Drive Belt |
| | 502644 | Oil Filter, Diesel Engine | | 1001958 | Ignition Key Switch |

# Service Support Material

| Qty. | Part No. | Description |
|---|---|---|
| | 2810631 | Safety & Operation Manual |
| | 2810632 | Parts & Maintenance |
| | 3004386 | Engine Parts Catalog |
| | 2810628 | Video, Operator Training |

| Qty. | Description |
|---|---|
| | Service Manual |

**Proposition 65 Warning**

This product contains or emits chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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# 1 SAFETY

## 1.1 OPERATING SAFETY

**⚠ WARNING**

**EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.**
Familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern, and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Safety and Operation Manual, Engine Manual, and attachments/accessories instruction sheets). If the operator cannot read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions; or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands, and feet. Operate the machine only in daylight or in good artificial light.
6. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Jacobsen.
7. Stay alert for holes in the terrain and other hidden hazards.
8. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.). Enter a new area cautiously. Stay alert for hidden hazards.
9. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator can prevent and is responsible for injuries inflicted to themselves, to bystanders, and damage to property.
10. Do not carry passengers. Keep bystanders and pets a safe distance away.
11. Never operate equipment that is not in perfect working order or is without decals, guards, shields, discharge deflectors, or other protective devices securely fastened in place.
12. Never disconnect or bypass any switch.
13. Do not change the engine governor setting or overspeed the engine.
14. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation or in an enclosed area.
15. Fuel is highly flammable; handle with care.
16. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
17. Disengage all drives and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat, never while standing beside the unit.
18. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads. Watch out for traffic when crossing or operating on or near roads.
19. Local regulations may restrict the age of the operator.
20. Operate the machine up and down the face of slopes (vertically), not across the face (horizontally).
21. To prevent tipping or loss of control, do not start or stop suddenly on slopes. Reduce speed when making sharp turns. Use caution when changing directions.
22. Always use the seat belt when operating mowers equipped with a Roll Over Protective Structure (ROPS).

    *Never use a seat belt when operating mowers without a ROPS.*

    Accessory operator protective structures will continue to be offered for all equipment currently covered. This allows for the outfitting of any machines without previous ROPS installations or replacement of damaged structures.
23. Keep legs, arms, and body inside the seating compartment while the vehicle is in motion.
24. Disconnect battery and controller electrical connectors before performing any welding on this mower.

***This machine is to be operated and maintained as specified in this manual and is intended for the professional maintenance of specialized turf grasses. It is not intended for use on rough terrain or long grasses.***

## 1.2 IMPORTANT SAFETY NOTES

*This safety alert symbol is used to alert you to potential hazards.*

- Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

**WARNING** - Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

**CAUTION** - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

- Indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage. It may also be used to alert against unsafe practices.

*For pictorial clarity, some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place.*

**WARNING**

The Interlock System on this mower prevents the mower from starting unless the brake lever is engaged, reel switch is off, and traction pedal is in neutral. The system will stop the engine if the operator leaves the seat without engaging the parking brake or setting the reel switch off.

NEVER operate mower unless the Interlock System is working.

**WARNING**

1. Before leaving the operator's position for any reason:
   a. Return traction pedal to neutral.
   b. Disengage all drives.
   c. Lower all implements to the ground.
   d. Engage parking brake.
   e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust, or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers, unless a seat is provided for them.
5. Never operate mowing equipment without the discharge deflector securely fastened in place.

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

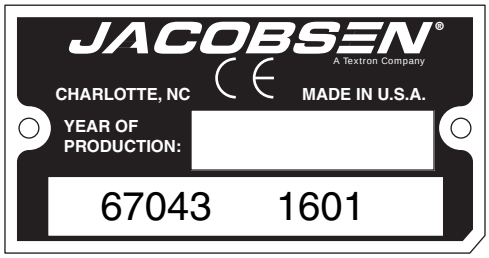
If additional information or service is needed, contact your Authorized Jacobsen Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service. **Use of other than original or authorized Jacobsen parts and accessories will void the warranty.**

# 2 SPECIFICATIONS

## 2.1 PRODUCT IDENTIFICATION

67043 ..... Tri-King 1900D Mower, 3-WD, 18.5 hp diesel engine with ROPS. Without front lift arms, mowers or battery.

Serial Number ..... An identification plate, like the one shown, listing the serial number, is attached to the frame of the mower and is located to the operator's left just behind the front wheel motor. Always provide the serial number of the unit when ordering replacement parts or requesting service information.




| Product | EEC Sound Power | Sound Pressure Level Operator Ear | Vibration M/S$^2$ | |
|---|---|---|---|---|
| | | | Arms | Body |
| 67043 | 101 dba | 87 dba | 1.4 | <0.08 |

## 2.2 ENGINE

Make ..... Kubota
Model ..... D662-E
Horsepower ..... 18.5 hp (13.9 kW) @3600 rpm
Note: *Actual sustained horsepower will likely be lower than listed in specifications due to operating limitations and environmental factors*

Displacement ..... 40.03 cu. in. (656 cc)
Torque ..... 26 ft. lbs. (35 Nm) @ 2600 rpm
Fuel:
- Type ..... No. 2 Diesel
- Rating ..... Min. Cetane rating 45
- Capacity ..... 6.5 U.S. Gal. (24.6 liters)

Governor ..... Ball Type Governor
- Low Idle ..... 1100 RPM
- High Idle ..... 3400 RPM

Lubrication:
- Capacity ..... 3.4 quarts (3.2 liter) with filter
- Type ..... SAE 20W, SAE 30W
- API Classification ..... CD, CE

Air Filter ..... Dry type with evacuator valve and service indicator.
Alternator ..... 40 amp

## 2.3 CUTTING UNITS:

Reel ..... 3 Reels, 26 in. (660 mm) wide or, 3 Reels, 30 in. (762 mm) wide.
Reel Diameter ..... 7 in. (178 mm)
Bearings ..... Self adjusting tapered roller bearings
Blade Options ..... 7 blades
Cutting Width:
- 26 in. Reels ..... 72 in. (1828 mm)
- 30 in. Reels ..... 84 in. (2134 mm)

Overall Width:
- 26 in. Reels ..... 78.5 in. (1994 mm)
- 30 in. Reels ..... 90.5 in. (2298 mm)

Cutting Frequency:
- 7 Blade ..... 0.151 in./mph (3.8 mm/kph)

## 2.4 MOWER

Tires:
- Front ..... 20 x 10 - 10 tubeless
- Rear ..... 20 x 10 - 8 tubeless

Pressure:
- Front ..... 10-12 psi (69-83 kPa)
- Rear ..... 8-10 psi (55-69 kPa)

Battery:
- Type ..... 12 Volt Lead/Acid
- Group ..... 22 NF

Parking Brake ..... Mechanical front wheel disk Hand lever actuated

Speed:
- Mow ..... 0 - 5 mph (8 kph)
- Transport ..... 0 - 8.5 mph (13.7 kph)
- Reverse ..... 0 - 2.3 mph (3.7 kph)

**Hydraulic System:**
Capacity ..... 5.5 U.S. gal. (20.8 liters) System
Fluid Type ..... GreensCare 68 Biodegradable
Charge Filter ..... 10 micron
Return Line Filter ..... 10 micron
Steering ..... Hydrostatic power steering

## 2.5 WEIGHTS AND DIMENSIONS

| Dimensions: | Inches | (mm) |
|---|---|---|
| Length | 99 | (2519) |
| Height | 51.5 | (1308) |
| Width - Wheel | 64.5 | (1638) |

| Weights: | Lbs. | (kg) |
|---|---|---|
| 67043 1900D (Base Mower, No Reels) | 1445 | (655) |

## 2.6 ACCESSORIES & SUPPORT LITERATURE

Contact your area Jacobsen Dealer for a complete listing of accessories and attachments.

**⚠ CAUTION**

Use of other than Jacobsen authorized parts and accessories may cause personal injury or damage to the equipment and will void the warranty

**Accesories**

| | |
|---|---|
| Air Blow Gun | JAC5098 |
| Orange Touch-up Paint (12 oz. spray) | 554598 |
| 2-Post ROPS with Seat Belt | 69157 |
| Light Kit | 69149 |
| Arm Rest | 4139431 |
| Grass Catchers for 26 in. Reel | 69151 |
| Grass Catchers for 30 in. Reel | 69150 |
| 600 RPM Reel Kit (1900D Units) | 5003062 |
| Down Pressure Kit | 1002588 |

**Reels**

| | |
|---|---|
| 7 Blade, 26 in. Left Hand Reel | 67114 |
| 7 Blade, 26 in. Right Hand Reel | 67115 |
| 7 Blade, 26 in. Center Reel | 67116 |
| 7 Blade, 30 in. Left Hand Reel | 67123 |
| 7 Blade, 30 in. Right Hand Reel | 67124 |
| 7 Blade, 30 in. Center Reel | 67125 |
| Vertical Mower, 26 in. Left Hand | 67139 |
| Vertical Mower, 26 in. Right Hand | 67140 |
| Vertical Mower, 26 in. Center | 67141 |

**Rollers**

| | |
|---|---|
| Grooved Front Roller (Steel) for 26 in. Reel | 67731 |
| Grooved Front Roller (Steel) for 30 in. Reel | 67729 |
| Solid Roller for 26 in. Reel | 132639 |
| Solid Roller for 30 in. Reel | 132640 |
| Grooved Front Roller Scraper for 26 in. Reel | 69147 |
| Grooved Front Roller Scraper for 30 in. Reel | 69148 |
| Rear Roller Scraper for 26 in. Reel | 67909 |
| Rear Roller Scraper for 30 in. Reel | 67910 |

**Support Literature**

| | |
|---|---|
| Safety & Operation Manual | 2810631 |
| Parts & Maintenance Manual | 2810632 |
| Diesel Engine Parts Catalog | 3004386 |
| Operator Training Video | 2810628 |
| Service & Repair Manual | |

# 3 ADJUSTMENTS

## 3.1 GENERAL

**⚠ WARNING**

To prevent injury, lower implements to the ground, disengage all drives, engage parking brake, stop engine, and remove key from ignition switch before making any adjustments or performing maintenance.

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Adjustments and maintenance should always be performed by a qualified technician. If proper adjustment cannot be made, contact an authorized Jacobsen Dealer.
2. Replace, do not adjust, worn or damaged components.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.

**⚠ CAUTION**

Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.

4. Do not change governor settings or overspeed the engine.

## 3.2 FAN BELT

Inspect and adjust new belt after first ten hours of operation. Adjust every 100 hours thereafter.

1. Adjust alternator pulley so belt (**B**) deflects 9/32 to 11/32 in. (7 to 9 mm) with a 22 lb. (10 kgf) push at midspan between pulleys.
2. If tension is incorrect, loosen alternator mounting bolts (**A**), and adjust alternator until proper belt tension is achieved. Tighten hardware (**A**).

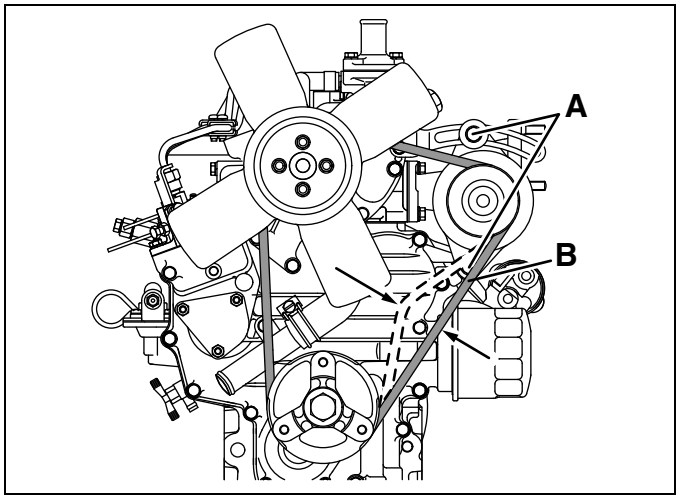



**Figure 3A**

## 3.3 PUMP DRIVE BELT

Adjust reel pump belt (**C**) to deflect 1/4 in. (6 mm) with a force of 5-7 lb. (2-3 kgf) applied at midspan.

1. Loosen hardware (**D** and **E**).
2. Move pump/clutch assembly down to increase tension on belt (**C**) then tighten hardware (**D** and **E**).
3. Torque hardware (**D** and **E**) to 27 - 33 ft-lb. (37-45 Nm).

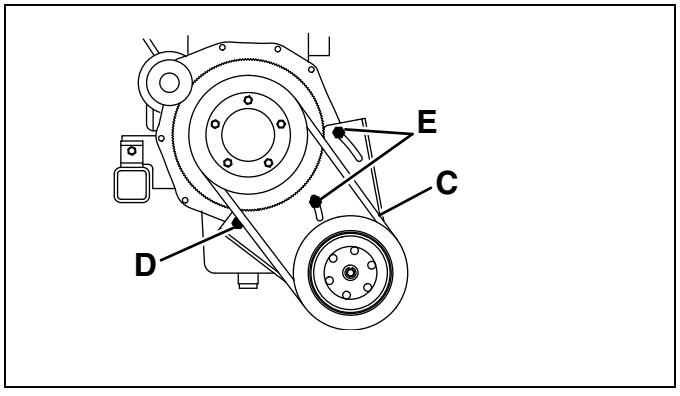



**Figure 3B**

## 3.4 NEUTRAL AND 3WD SWITCHES

1. Check traction pedal adjustment.
2. Use a volt/ohm meter to determine when switch opens or closes.
   a. Adjust switch **(G)** so "finger" of actuating arm **(F)** is centered over sensing portion of switch. Switch contacts should be closed with traction pedal in neutral and open with minimal pedal travel in forward or reverse direction.
   b. Adjust 3WD switch **(H)** so contacts are open with traction pedal in neutral, and contacts close with minimal pedal travel in forward direction.

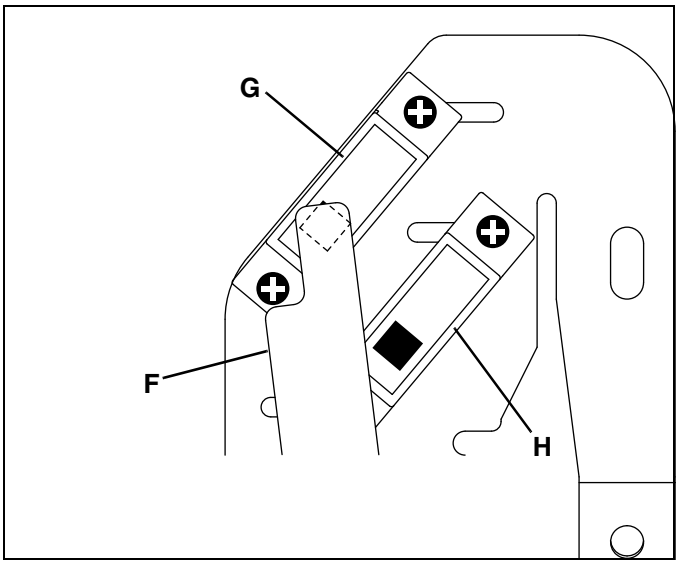



**Figure 3C**

## 3.5 PARKING BRAKE SWITCHES

Loosen screws (**K**) and adjust both switches so contacts just close as the brake lever is moved to the engaged position then tighten screws.

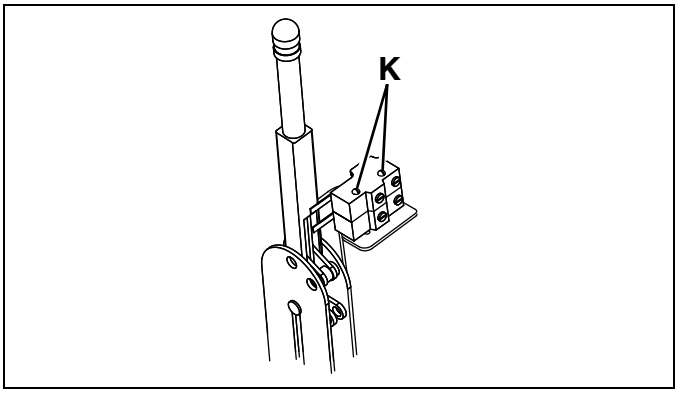



**Figure 3D**

## 3.6 LIFT LIMIT SWITCH

The lift limit switch must be adjusted so the reels stop turning before the cutting plane between the reel and ground reach 15-3/4 in. (400 mm). To adjust, loosen screw (**L**), and adjust arm (**M**).

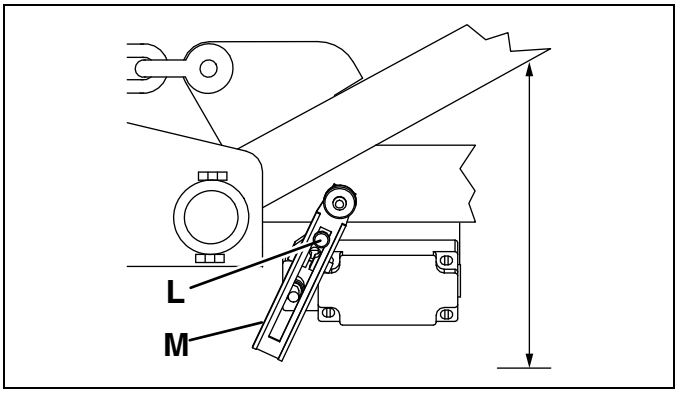



**Figure 3E**

# 3 ADJUSTMENTS

## 3.7 TRACTION PEDAL NEUTRAL

1. If the mower “creeps” in either direction when the engine is running, but the traction pedal is not depressed, adjust spring tension so that the pedal always returns to neutral when released.

   **Note:** The mower may “creep” when the hydraulic oil is cold. Operate the mower for 15 minutes before determining if adjustment is required.

2. Use extreme caution when making this adjustment as the wheels will be off the ground and the engine will be running.
3. Engage parking brake, stop the engine, open hoods, then lubricate all linkage pivot points.
4. Chock the rear wheel, and place the front of the mower on jackstands.
5. Loosen all nuts (**N**) and adjust rear spring to position traction arm in neutral.
   a. Lock rear nuts and adjust front nuts (**N**) to maintain 3/8 in. (9 mm) of extension in spring (**O**).
   b. Start the engine and check for “creep” then repeat the process if necessary.

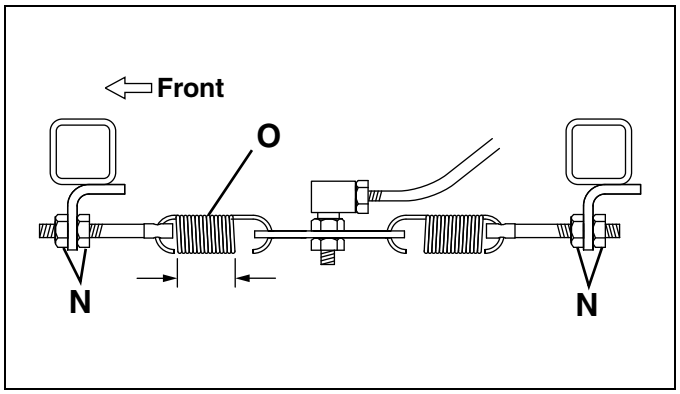



**Figure 3F**

## 3.8 TRACTION PEDAL FORWARD STOP

Loosen nuts (**P**) move the traction pedal to its maximum forward position. Adjust screw (**Q**) until the head just touches the traction pedal arm. Return traction pedal to neutral and turn screw (**Q**) out one full turn. Tighten nuts (**P**).

**Important:** Screw (**Q**) must stop traction pedal before the internal stops in the hydrostatic transmission are contacted.

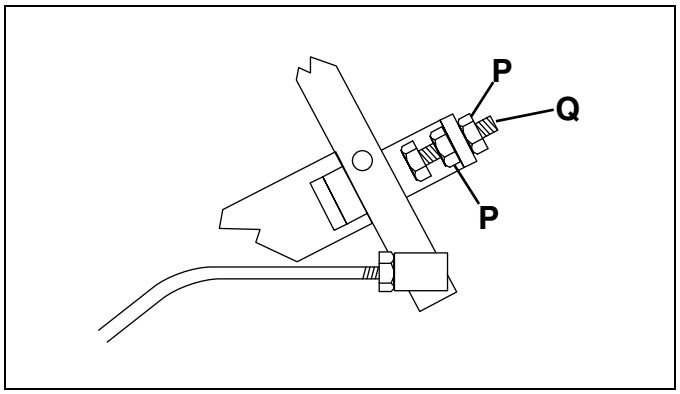



**Figure 3G**

## 3.9 LIFT / LOWER PEDAL STOP

Adjust bolts (**R** and **S**) to stop spool valve from hitting the internal stops, while maintaining the full stroke of the spool.

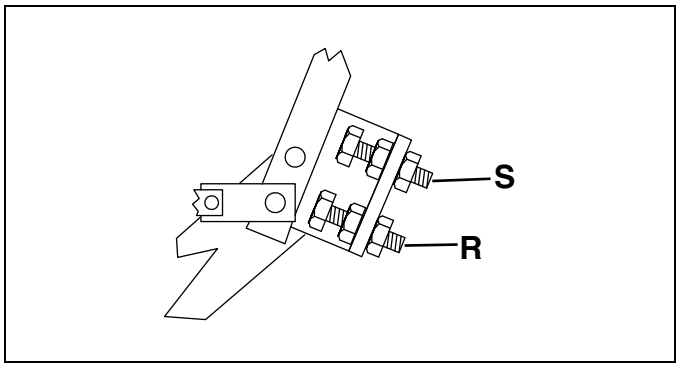



**Figure 3H**

## 3.10 PARKING BRAKE

1. Check linkage cables and pivots to ensure they are operating smoothly.
2. Park the mower on a 30% slope (16.7°) near the bottom of the hill, with the front of the mower facing downhill. Engage the parking brake and stop the engine.
   a. The mower should stay on the hill without creeping.
   b. If the brakes do not hold, start the engine, disengage the brake, and drive to the bottom of the hill.

**⚠ CAUTION**

**DO NOT** disengage the brakes with the engine off.

3. With parking brake disengaged, turn adjusting knob in a clockwise direction, applying and releasing brake every quarter turn, until a definite “snap over center” action is achieved.
4. Repeat the test on the hill if required.

   **Note:** Over adjustment causes hard lever action, but does not increase brake efficiency.

## 3.11 REAR LIFT ARM

1. Rear lift arm position is properly adjusted when the rear mower bumpers are putting slight pressure against the underside of the foot rests.
2. Disconnect lift chain (**T**) from crank and adjust ball joint (**U**) as required.

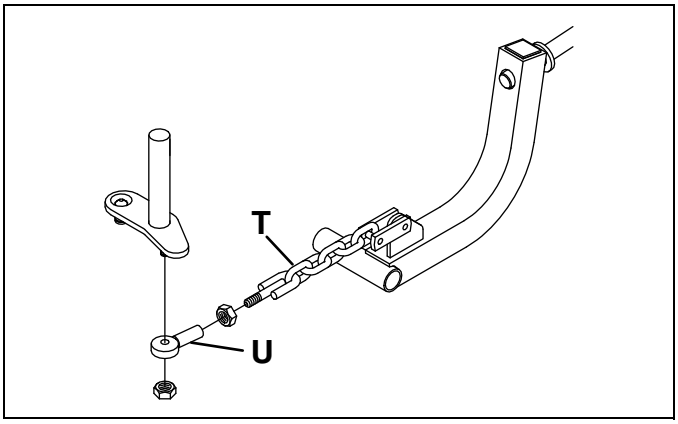



**Figure 3I**

## 3.12 DOWN PRESSURE

1. Place mowers in the Fixed Mode (**Section 3.18**) and lower the mowers onto a scale, capable of weighing 250 lb. (113 kg). The rear roller of the mower must rest on the scale.
2. To adjust pressure on rear mower loosen nuts (**V**) and adjust to obtain the desired pressure.
3. To adjust pressure on front mowers, loosen nut (**W**) and adjust bolt (**X**). Minimum thread engagement should be 1/2 in. (13 mm).
4. To maintain a consistent height of cut, the down pressure should be adjusted evenly on all three mowers.
5. Jacobsen, recommends the mower weight for Floating Mode at 60 lb. (27 kg), and for Fixed Mode at 90 lb. (41 kg).

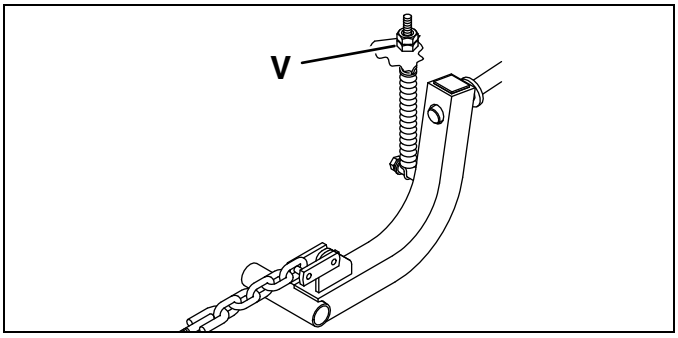



**Figure 3J**

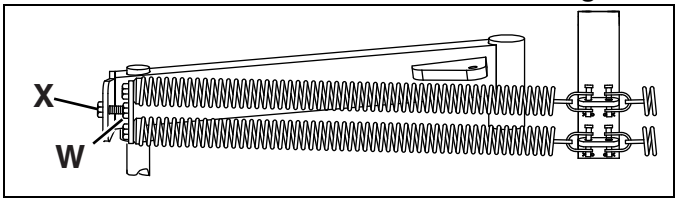



**Figure 3K**

## 3.13 REEL TO BEDKNIFE

(Pre-adjustment Check)

1. Check the reel bearings for end play or radial play. If there is any abnormal movement of the reel, up and down or side to side, adjust or replace components as needed.

**⚠ CAUTION**

To prevent personal injury and damage to the cutting edges, handle the reel with extreme care.

2. Inspect the reel blades and bedknife to insure good sharp edges without bends or nicks.
   a. The cutting edges of the reel blades and bedknife must be sharp, free of burrs, and show no signs of rounding off.
   b. The bedknife and bedknife backing must be securely tightened. The bedknife must be straight and sharp.
   c. A flat surface of 5/32 in. (4 mm) minimum must be maintained on the front face of the bedknife. Use a standard flat file to dress the bedknife.
3. If wear or damage is beyond the point where the reel or bedknife can be corrected by the lapping process, they must be reground.
4. Proper reel-to-bedknife adjustment is critical. A gap of 0.001 to 0.003" (0.025 to 0.076 mm) must be maintained across the entire length of the reel and bedknife.
5. The reel must be parallel to the bedknife. An improperly adjusted reel will lose its sharp edges prematurely and may result in serious damage to the reel and bedknife.
6. Grass conditions will also affect the adjustment.
   a. Dry, sparse conditions will require a wider gap to prevent heat buildup and damage to the reel and bedknife.
   b. High quality grass with a good moisture content requires a closer gap (near zero).

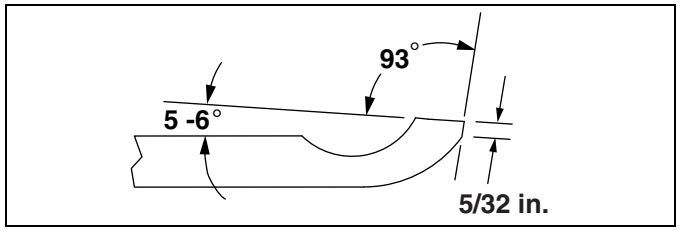
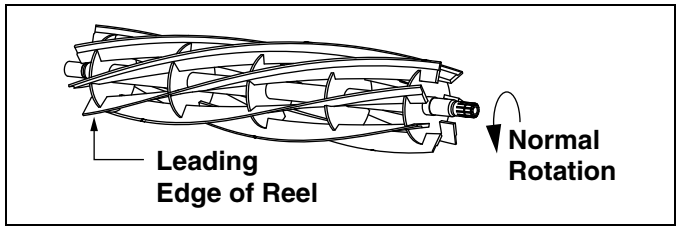



**Figure 3L**




## 3.14 REEL TO BEDKNIFE ADJUSTMENT

1. Read **Section 3.13** before making the adjustment.
2. Start adjustment at the leading edge of the reel, followed by the trailing end. *The leading end of the blade is the end that passes over the bedknife first during normal rotation.*
3. Loosen nut (**C**) 1/4 turn on both ends of the cutting unit.
   a. Turn adjuster (**A**) in 1/16 to 1/8 turn increments.
   b. Slide a feeler gauge or shim stock.001 in. (.025 mm) between the reel blade and the bedknife. Do not turn reel.
   c. Adjust the trailing end of the reel in the same manner then recheck the adjustment at the leading end.
   d. Tighten all hardware and recheck the adjustment.
   e. When properly adjusted, the reel will spin freely, and you should be able to cut a piece of newspaper along the full length of the reel, when the paper is held at 90°.

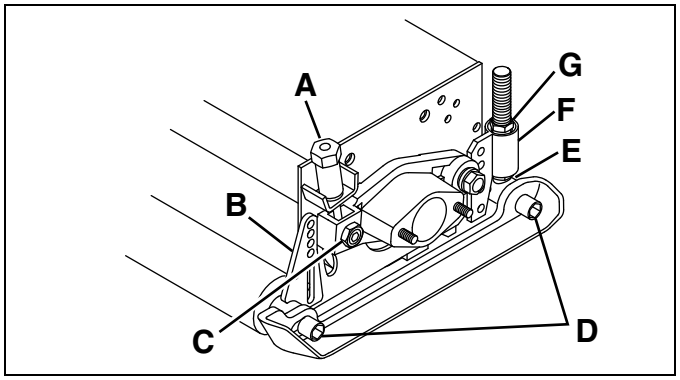



**Figure 3N**

## 3.15 CUTTING MODES

1. The mower may be operated in the Fixed Mode or the Floating Mode.
2. Fixed Mode is generally used for cutting heights greater than 1 in. (25 mm) and the mower does not require a front roller unless the terrain is rough and uneven.

   If a front roller is required, the roller should be raised 1/4 in. (6 mm) higher than the rear roller and used for anti-scalp purposes only.
3. Floating Mode is generally used for cutting heights less than one inch (25 mm) and a front roller is required.

   If a 2-1/2 in. (63 mm) solid front roller is used, the cutting height will range from 3/8 to 2-1/8 in. (9 to 54 mm).

   If a 3 in. (76 mm) grooved front roller is used, the cutting height will range from 3/8 to 2-1/4 in. (9 to 57 mm).
4. To convert the mower from Fixed to Floating Mode, remove hardware (**H**) from each side of the three mower frames.

   Install a front roller and store hardware (**H**) for future conversion to fixed mode.
5. To convert the mower from Floating to Fixed Mode, assemble hardware (**H**) as shown and remove or raise the front roller.

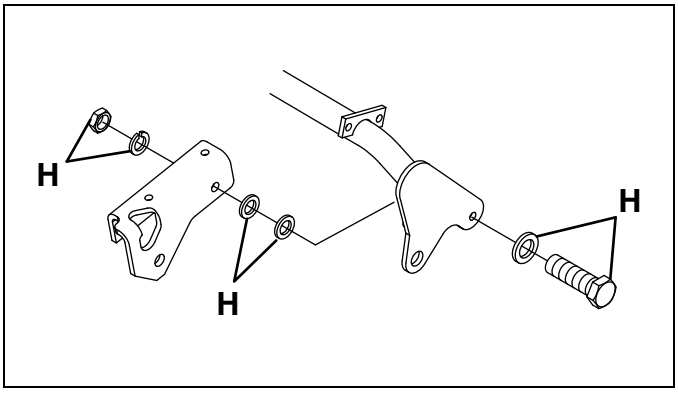



**Figure 3O**

## 3.16 CUTTING HEIGHT ADJUSTMENT

1. Raise and lock the lift arms in transport mode.
2. For easier access to the height adjusters on the motor end of the front reels, Jacobsen recommends raising the front end of the mower just a few inches off the ground then, being careful not to damage the hydraulic hoses, tilt the front mowers 90 degrees, and tether the mowers together.
3. On the rear mower (center) remove the pin and collar on the shaft and slide the mower backwards.
4. Always make the reel-to bedknife adjustment (**Sections 3.13 and 3.14**) **before** making the cutting height adjustment.
5. Select Fixed or Floating Mode and convert the mower accordingly.
6. Loosen skid mounting hardware (**D** - **Figure 3N**) then adjust the cutting height. (A special tool is provided with the mowers. A 5/8 in. socket and ratchet are required).

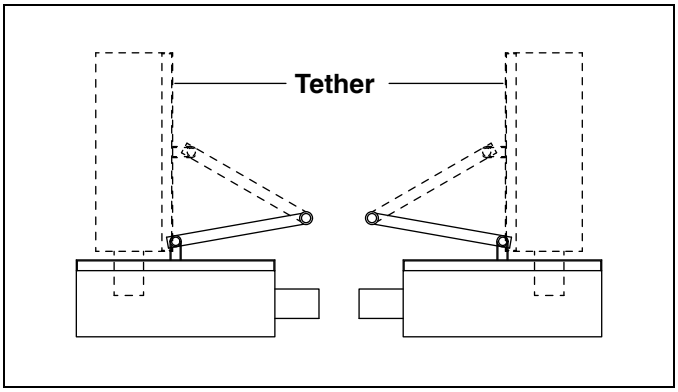



**Figure 3P**

## 3.17 REMOVING THE CUTTING UNIT

1. To prevent contamination of the hydraulic system, as well as loss of oil, do not disconnect the hoses from the motor.

**⚠ CAUTION**

Disconnect lift springs before removing mowers.

2. Raise and lock the lift arms in transport mode (**Section 3.4**) and disconnect the down pressure springs.
3. Remove transport pin then lower the lift arms to the ground.
4. Remove hardware securing motor to drive housing and carefully pull the motor away.
5. Place motor in a clean plastic bag and cover the opening in the gear box.
6. Remove pin and collar from center (rear) lift arm and pull the center cutting unit away from the mower.
7. Remove the hardware securing the front lift arms to the cutting units, and slide the mowers out of the way.

## 3.18 CUTTING HEIGHT - FIXED MODE

***Follow the procedures outlined in Section 3.16.***

1. Reposition the rear roller adjuster.
   a. For cutting heights from 3/8 to 1-3/4 in. (9 to 44 mm), use holes (**M**) on the mower frame, and two holes (shown in black) of the height adjuster (**F**) as shown.
   b. For cutting heights greater than 1-3/4 inches (44 mm), disassemble adjuster (**F**) and turn the mounting bracket upside down; then use holes (**N**) of the frame, and the two holes (shown in black) of the adjuster (**F**).
2. Remove the tether, and lower the cutting units to the ground.
3. Place spacers of the desired height (**J**) under each end of the reel, adjacent to the front edge of the bedknife.
4. Loosen nut (**G**) and lower rear roller to the ground. Tighten nut (**E**) against the adjuster then recheck the setting on both side of the reel. Readjust if necessary.
5. Assemble the front roller adjuster (**B**) (If a roller is required) to holes number 2 and 4 only of the mower frame. Do not use holes number 1 and 3. Set roller to 1/4 in. (6 mm) above rear roller.

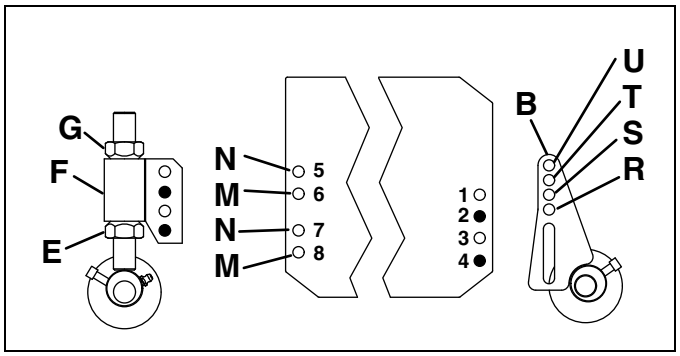



**Figure 3Q**

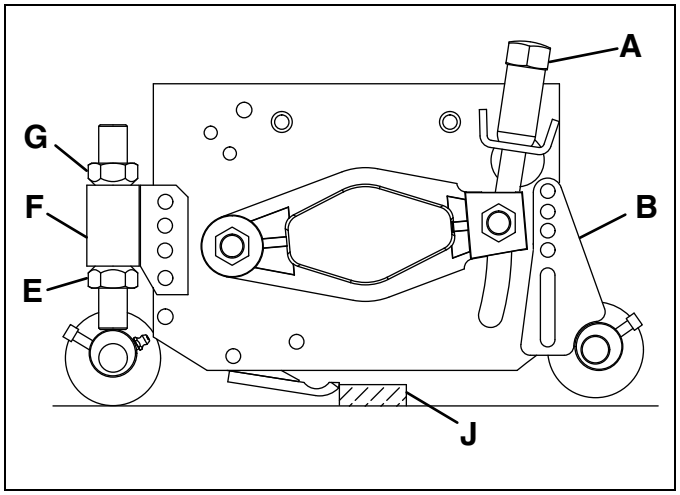



**Figure 3R**

## 3.19 CUTTING HEIGHT - FLOATING MODE

**Follow the procedures outlined in Section 3.16.**

1. Assemble the front roller adjuster (**B**) to holes number 2 and 4 only of the mower frame. Do not use hole numbers 1 and 3. Refer to the chart below for correct hole of front roller adjuster to use.
2. Reposition the rear roller adjusters (**F**).
   a. For cutting heights from 3/8 to 1-3/4 in. (9 to 44 mm), use holes (**M**) on the mower frame, and two holes (shown in black) of adjuster (**F**) as shown.
   b. For cutting heights greater than 1-3/4 in. (44 mm), disassemble adjuster (**F**) and turn the mounting bracket upside down; then use holes (**N**) of the frame, and the two holes (shown in black) of adjuster (**F**).
3. Loosen nut (**L**) and adjust screw (**K**) to obtain desired cutting height (**X**) then lock nut (**L**) against gauge (**P**).
4. Place one end of the gauge under the front roller at either end of the reel, and slide the head of screw (**K**) over the bedknife.
   a. Adjust nut (**G**) to lower the rear roller to the gauge, then tighten nut (**E**) against the adjuster.
   b. Move the gauge to the other end of the reel and repeat Steps 4a and 4b.

| Range of Cut | | | | | |
|---|---|---|---|---|---|
| Grooved Roller | | Solid Roller | | Front | Rear |
| Inches | Millimeters | Inches | Millimeters | | |
| 3/8 - 3/4 | 10 - 19 | 3/8 - 5/8 | 10 - 16 | R | M |
| 3/4 - 1-1/4 | 19 - 32 | 5/8 - 1-1/8 | 16 - 29 | S | M |
| 1-1/4 - 1-3/4 | 32 - 44 | 1-1/8 - 1-5/8 | 29 - 41 | T | M |
| 1-3/4 - 2-1/4 | 44 - 57 | 1-5/8 - 2-1/8 | 41 - 54 | U | N |

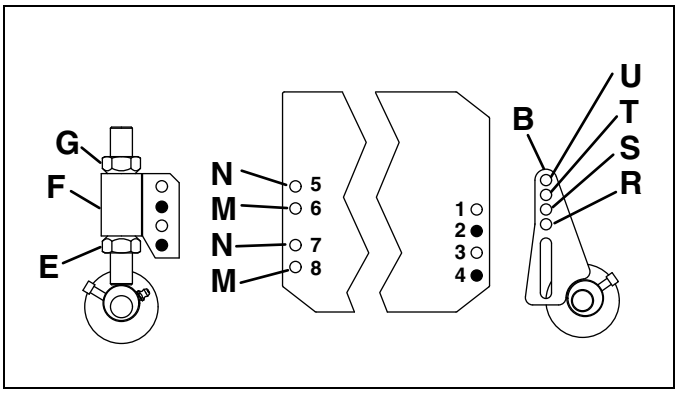



**Figure 3S**

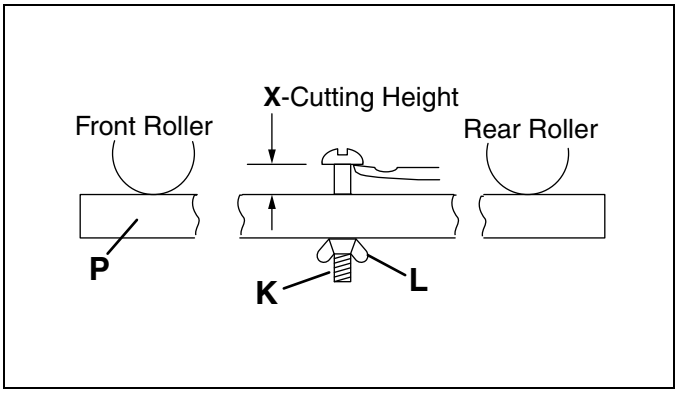



**Figure 3T**

# 3 ADJUSTMENTS

## 3.20 TORQUE SPECIFICATION

**NOTICE**

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Jacobsen is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Jacobsen uses Grade 5 Plated bolts as standard, unless otherwise noted. For tightening plated bolts, use the value given for lubricated.

**AMERICAN NATIONAL STANDARD FASTENERS**

| SIZE | UNITS | GRADE 5 | | GRADE 8 | | SIZE | UNITS | GRADE 5 | | GRADE 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Lubricated | Dry | Lubricated | Dry | | | Lubri-cated | Dry | Lubri-cated | Dry |
| #6-32 | in-lb (Nm) | – | 20 (2.3) | – | – | 7/16-14 | ft-lb (Nm) | 37 (50.1) | 50 (67.8) | 53 (71.8) | 70 (94.9) |
| #8-32 | in-lb (Nm) | – | 24 (2.7) | – | 30 (3.4) | 7/16-20 | ft-lb (Nm) | 42 (56.9) | 55 (74.6) | 59 (80.0) | 78 (105) |
| #10-24 | in-lb (Nm) | – | 35 (4.0) | – | 45 (5.1) | 1/2-13 | ft-lb (Nm) | 57 (77.2) | 75 (101) | 80 (108) | 107 (145) |
| #10-32 | in-lb (Nm) | – | 40 (4.5) | – | 50 (5.7) | 1/2-20 | ft-lb (Nm) | 64 (86.7) | 85 (115) | 90 (122) | 120 (162) |
| #12-24 | in-lb (Nm) | – | 50 (5.7) | – | 65 (7.3) | 9/16-12 | ft-lb (Nm) | 82 (111) | 109 (148) | 115 (156) | 154 (209) |
| 1/4-20 | in-lb (Nm) | 75 (8.4) | 100 (11.3) | 107 (12.1) | 143 (16.1) | 9/16-18 | ft-lb (Nm) | 92 (124) | 122 (165) | 129 (174) | 172 (233) |
| 1/4-28 | in-lb (Nm) | 85 (9.6) | 115 (13.0) | 120 (13.5) | 163 (18.4) | 5/8-11 | ft-lb (Nm) | 113 (153) | 151 (204) | 159 (215) | 211 (286) |
| 5/16-18 | in-lb (Nm) | 157 (17.7) | 210 (23.7) | 220 (24.8) | 305 (34.4) | 5/8-18 | ft-lb (Nm) | 128 (173) | 170 (230) | 180 (244) | 240 (325) |
| 5/16-24 | in-lb (Nm) | 173 (19.5) | 230 (26.0) | 245 (27.6) | 325 (36.7) | 3/4-10 | ft-lb (Nm) | 200 (271) | 266 (360) | 282 (382) | 376 (509) |
| 3/8-16 | ft-lb (Nm) | 23 (31.1) | 31 (42.0) | 32 (43.3) | 44 (59.6) | 3/4-16 | ft-lb (Nm) | 223 (302) | 298 404 | 315 (427) | 420 (569) |
| 3/8-24 | ft-lb (Nm) | 26 (35.2) | 35 (47.4) | 37 (50.1) | 50 (67.8) | 7/8-14 | ft-lb (Nm) | 355 (481) | 473 (641) | 500 (678) | 668 (905) |

**METRIC FASTENERS**

| SIZE | UNITS | 4.6 | | 8.8 | | 10.9 | | 12.9 | | Non Critical Fasteners into Aluminum |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Lubricated | Dry | Lubricated | Dry | Lubricated | Dry | Lubricated | Dry | |
| M4 | Nm (in-lb) | – | – | – | – | – | – | 3.83 (34) | 5.11 (45) | 2.0 (18) |
| M5 | Nm (in-lb) | 1.80 (16) | 2.40 (21) | 4.63 (41) | 6.18 (54) | 6.63 (59) | 8.84 (78) | 7.75 (68) | 10.3 (910 | 4.0 (35) |
| M6 | Nm (in-lb) | 3.05 (27) | 4.07 (36) | 7.87 (69) | 10.5 (93) | 11.3 (102) | 15.0 (133) | 13.2 (117) | 17.6 (156) | 6.8 (60) |
| M8 | Nm (in-lb) | 7.41 (65) | 9.98 (88) | 19.1 (69) | 25.5 (226) | 27.3 (241) | 36.5 (323) | 32.0 (283) | 42.6 (377) | 17.0 (150) |
| M10 | Nm (ft-lb) | 14.7 (11) | 19.6 (14) | 37.8 (29) | 50.5 (37) | 54.1 (40) | 72.2 (53) | 63.3 (46) | 84.4 (62) | 33.9 (25) |
| M12 | Nm (ft-lb) | 25.6 (19) | 34.1 (25) | 66.0 (48) | 88.0 (65) | 94.5 (70) | 125 (92) | 110 (81) | 147 (108) | 61.0 (45) |
| M14 | Nm (ft-lb) | 40.8 (30) | 54.3 (40) | 105 (77) | 140 (103) | 150 (110) | 200 (147) | 175 (129) | 234 (172) | 94.9 (70) |

## 3.21 SPECIFIC TORQUE

1. Tie rod ball joints: (2) 30 - 35 ft. lb. (41 - 47 Nm).
2. Engine drain plugs: 22 ft. lb. (30 Nm).
3. Steering ball joints: 50 - 55 ft. lb. (68 - 75 Nm).
4. Steering wheel nut: 30-40 ft-lb (41 - 51 Nm)
5. Wheel hardware:65 - 85 ft. lb. (88 - 116 Nm).

## 4.1 GENERAL

**⚠ WARNING**

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine, and remove key from ignition switch to prevent injuries

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustments cannot be made, contact an Authorized Jacobsen Dealer.
2. Inspect the equipment on a regular basis, establish a maintenance schedule, and keep detailed records.
   a. Keep the equipment clean.
   b. Keep all moving parts properly adjusted and lubricated.
   c. Replace worn or damaged parts before operating the machine.
   d. Keep all fluids at their proper levels.
   e. Keep shields in place and all hardware securely fastened.
   f. Keep tires properly inflated.
3. Do not wear jewelry or loose fitting clothing when making adjustments or repairs.
4. Use the illustrations in the Parts Catalog as reference for the disassembly and reassembly of components.
5. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to local, state, or federal regulations.

## 4.2 ENGINE

**IMPORTANT: A separate Engine Manual, prepared by the engine manufacturer, is supplied with this mower. Read the Engine Manual carefully until you are familiar with the operation and maintenance of the engine. Proper attention to the engine manufacturer's directions will assure maximum service life of the engine. To order replacement engine manuals contact the engine manufacturer.**

The proper break-in of a new engine can make a considerable difference to the performance and life of the engine.

**NOTICE**

The mower is designed to operate and cut most efficiently at the preset governor setting. Do not change the engine governor settings or overspeed the engine.

During the break-in period, Jacobsen recommends the following:

1. During the first 50 hours of operation, a new engine should be allowed to reach an operating temperature of at least 140°F (60°C) prior to operation at full load.
2. Check the engine oil level twice daily during the first 50 hours of operation. Higher than normal oil consumption is not uncommon during the initial break-in period.
3. Change engine oil and oil filter element after first 50 hours of operation.
4. Check and adjust fan and alternator belts.
5. Refer to **Section 6.3** and Engine Manual for specific maintenance intervals.

If the injection pump, injectors, or the fuel system require service, contact an authorized Jacobsen Dealer.

# 4 MAINTENANCE

## 4.3 ENGINE OIL

Check the engine oil at the start of each day, before starting the engine. If the oil level is low, remove oil filler cap, and add oil as required.

Perform initial oil change after first 50 hours of operation and every 100 hours thereafter. See Engine Manual.

Use only engine oils with API classification CD/CE.

| | |
|---|---|
| Above 77°F (25°C) | SAE 30W or SAE10W30/10W40 |
| 32 to 77°F (0 to 25°C) | SAE 20W or SAE 10W30/10W40 |
| Below 32° (0°C) | SAE10W or SAE 10W30/10W40 |

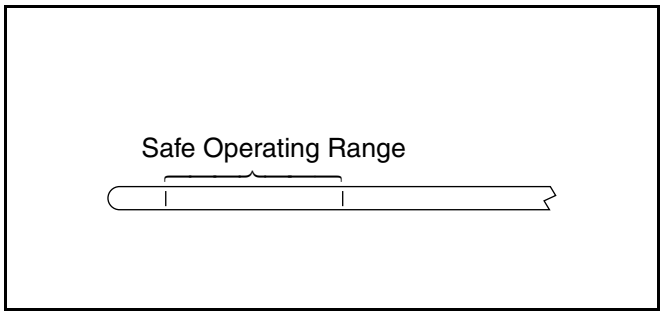



**Figure 4A**

## 4.4 AIR FILTER

Check the service indicator daily. If red band appears in the window **(C)** replace the element.

**Do not remove the element for inspection or cleaning.** Unnecessary removal of the filter increases the risk of injecting dust and other impurities into the engine.

When service is required, first clean the outside of the filter housing; then remove the old element as gently as possible and discard.

1. Carefully clean the inside of the filter housing without allowing dust into the air intake.
2. Inspect the new element. Do not use a damaged element and never use an incorrect element.
3. Assemble the new element and make sure it seats properly. Reset the indicator by depressing button **(D)**.
4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator (**E**) must be facing down.
5. Check all hoses and air ducts. Tighten hose clamps.

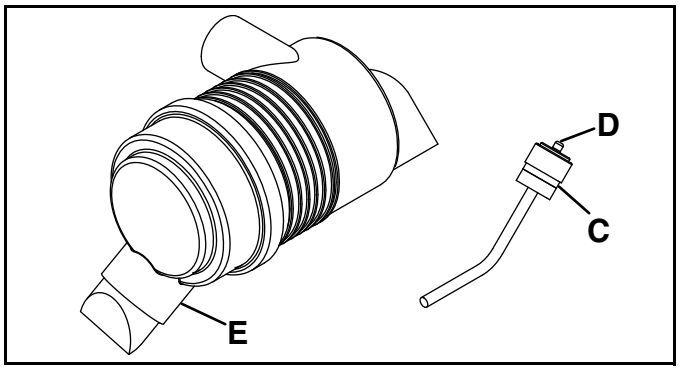



**Figure 4B**

## 4.5 FUEL

**Handle fuel with care - it is highly flammable.** Use an approved container, the spout must fit inside the fuel filler neck. Avoid using cans and funnels to transfer fuel.

**⚠ WARNING**

Never remove the fuel cap from the fuel tank, or add fuel, when the engine is running or while the engine is hot.

Do not smoke when handling fuel. Never fill or drain the fuel tank indoors.

Do not spill fuel and clean spilled fuel immediately.

Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.

Be sure to reinstall and tighten fuel cap securely.

- Fill the fuel tank to within 1 in. (25 mm) of the bottom of the filler neck.
- Store fuel according to local, state, or federal ordinances and recommendations from your fuel supplier.
- Never overfill or allow the tank to become empty.
- Check fuel lines and clamps every 50 hours. Replace fuel lines and clamps at the first sign of damage.
- Use clean, fresh, #2 Diesel fuel. Minimum Cetane rating 45. Refer to Engine Manual for additional information.

## 4.6 FUEL SYSTEM

Refer to **Section 6.3** for specific maintenance intervals.

Before replacing any filter, thoroughly clean the filter housing and the area around the filter. Dirt must not be allowed to enter into fuel system.

For diesel engines, bleed the fuel system after the fuel filter and lines have been removed, or the fuel tank has become empty. See Engine Manual.

## 4.7 BATTERY

Make absolutely certain the ignition switch is OFF and the key has been removed before servicing the battery.

**⚠ CAUTION**

Always use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. You must read and obey all battery manufaturer's instructions.

Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep vent caps and terminal covers in place.

Check the electrolyte level every 100 hours. Keep the cable ends, battery, and battery posts clean.

Verify battery polarity before connecting or disconnecting the battery cables.

1. When installing the battery, always assemble the RED, positive (+) battery cable first, and the ground, BLACK, negative (-) cable last.
2. When removing the battery, always remove the ground, BLACK, negative (-) cable first, and the RED, positive (+) cable last.
3. Make sure battery is properly installed and secured to the battery tray.

**⚠ WARNING**

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling.**

## 4.8 JUMP STARTING

Before attempting to “jump start” the mower, check the condition of the discharged battery. **Section 4.7**

**⚠ WARNING**

Batteries generate explosive hydrogen gas. To reduce the chance of an explosion, avoid creating sparks near battery. Always connect the negative jumper cable to the frame of the mower with the discharged battery, away from the battery.

**When connecting jumper cables:**

1. Stop the engine on the vehicle with a good battery.
2. Connect RED jumper cable to the positive (+) terminal on the good battery and to the positive (+) terminal on the “discharged” battery.
3. Connect the BLACK jumper cable from the negative (-) terminal on the good battery to the frame of the mower with the discharged battery.

After cables have been connected, start the engine on the vehicle with the good battery then start the mower.

## 4.9 CHARGING BATTERY

**⚠ WARNING**

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion, keep any device that may create sparks or flames away from the battery.

To prevent injury, stand away from battery when the charger is turned on. A damaged battery could explode.

1. Refer to **Section 4.7**. Read the Battery and Charger’s manual for specific instructions.
2. Whenever possible, remove the battery from the mower before charging. If battery is not sealed, check that the electrolyte covers the plates in all the cells.
3. Make sure the charger is Off Then connect the charger to the battery terminals as specified in the charger’s manual.
4. Always turn the charger Off before disconnecting charger from the battery terminals.

## 4.10 HYDRAULIC HOSES

**⚠ WARNING**

To prevent serious injury from hot, high pressure oil, never use your hands to check for oil leaks, use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

1. Always lower implements to ground, disengage all drives, engage parking brake, stop engine, and remove key before inspecting or disconnecting hydraulic lines or hoses.
2. Check visible hoses and tubes daily. Look for wet hoses or oil spots. Replace worn or damaged hoses and tubes before operating the machine.
3. The replacement tube or hoses must be routed in the same path as the existing hose, do not move clamps, brackets, and ties to a new location.
4. Thoroughly inspect all tubes, hoses, and connections every 250 hours.

**IMPORTANT: The hydraulic system can be permanently damaged if the oil becomes contaminated.** Before disconnecting any hydraulic component, clean the area around fittings and hose ends to keep impurities out of the system.

a. Before disconnecting any hydraulic component, tag or mark the location of each hose then clean the area around the fittings.

b. As you disconnect the component, be prepared to assemble plugs or caps to the hose ends and open ports. This will keep impurities out of the hydraulic system and also prevent oil spills.

c. Make sure “O” rings are clean and hose fittings are properly seated before tightening.

d. Keep the hose from twisting. Twisted hoses can cause couplers to loosen as the hose flexes during operation resulting in oil leaks.

e. Kinked or twisted hoses can restrict the oil flow causing the system to malfunction and the oil to overheat and also lead to hose failure.

## 4.11 HYDRAULIC OIL

Refer to **Section 6.3** for specific maintenance intervals.

The hydraulic reservoir on this machine is filled with Jacobsen Greens Care 68 Biodegradable fluid.

Drain and replace the hydraulic oil after a major component failure, or if you notice the presence of water or foam in the oil, or a rancid odor (indicating excessive heat).

Always replace the hydraulic filter when changing oil.

**To change hydraulic oil:**

1. Clean the area around the oil cap to prevent impurities from entering and contaminating the system.
   a. Oil temperature should be at 60° to 90°F (16° - 32°C). Do not check oil level when oil is hot.
   b. The hydraulic oil level should never fall below the lower line on the dipstick or be above the top line on dipstick.
2. Remove drain plug from bottom of tank and loosen or remove breather cap on top of tank. Check and clean the breather cap, replace as necessary.
3. After oil has drained install drain plug and fill with Jacobsen GreensCare 68 Biodegradable Fluid.
4. Purge air from system.
   a. Operate all mower functions for about 5 minutes to purge air out of the system and stabilize the oil level.
   b. Once the level has stabilized and the air is purged, fill the tank to the full mark on dipstick.

## 4.12 HYDRAULIC OIL FILTERS

The hydraulic system is protected by two 10 micron filters.

**To replace hydraulic oil filter:**

1. Remove the old filters.
2. Fill new filter with oil then install new filter. Hand tighten only.
3. Operate engine at idle speed with hydraulic system in neutral for five minutes.
4. Check hydraulic oil level in reservoir and fill to full mark on dipstick.

## 4.13 ELECTRICAL SYSTEM

**⚠ CAUTION**

Always turn the ignition switch off and remove the negative battery cable (BLACK) before inspecting or working on the electrical system.

General precautions that can be taken to reduce electrical problems are listed below.

1. Make certain all terminals and connections are clean and properly secured.
2. Check the operator backup system, fuses, and circuit breakers regularly.

   If the operator backup does not function properly and the problem cannot be corrected, contact an authorized Jacobsen Dealer.
3. Keep the wire harness and all individual wires away from moving parts to prevent damage.
4. Make sure the seat switch harness is connected to the main wire harness.
5. Check the battery and battery charging circuit.
6. Do not wash or pressure spray around electrical connections and components.

# 4 MAINTENANCE

## 4.14 MUFFLER AND EXHAUST

**⚠ WARNING**

Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.

**NEVER** operate an engine without proper ventilation.

To protect from carbon monoxide poisoning, inspect the complete exhaust system regularly and always replace a defective muffler.

If you notice a change in the color or sound of the exhaust, stop the engine immediately. Identify the problem and have the system repaired.

Torque all exhaust manifold hardware evenly. Tighten or replace exhaust clamps.

## 4.15 TIRES

1. Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.
2. Check the pressure with an accurate, low pressure tire gauge.
3. Keep tires inflated to:
   Front: - 10-12 psi (69-83 kPa).
   Rear: - 8-10 psi (55-69 kPa).

**⚠ CAUTION**

Unless you have the proper training, tools, and experience, DO NOT attempt to mount a tire on a rim. Improper mounting can produce an explosion which may result in serious injury.

## 4.16 WHEEL MOUNTING PROCEDURE

**⚠ WARNING**

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Remove dirt, grease, and oil from stud thread. Do not lubricate threads.
2. Position wheel on hub and inspect to insure full contact between mounting surface of wheel and hub or brake drum.
3. Finger tighten all hardware then torque hardware in criss-cross order; always tighten nuts in the top position.
4. Check and retorque daily until torque is maintained, 85-95 ft.lbs. (115-128 Nm).

## 4.17 CARE AND CLEANING

Wash the mower and implements after each use. Keep the equipment clean.

**NOTICE**

Do not wash any portion of the equipment while it is hot. Do not use high pressure spray or steam. Use cold water and automotive cleaners.

1. Use compressed air to clean engine and radiator fins. A special blow gun is available through Jacobsen Dealer.
2. Use only fresh water for cleaning your equipment.

**NOTICE**

Use of salt water or affluent water has been known to encourage rust and corrosion of metal parts resulting in premature deterioration or failure. Damage of this nature is not covered by the factory warranty.

3. Do not spray water directly at the instrument panel, ignition switch, controller, any other electrical components, bearing housings, or seals.
4. Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.
5. To maintain the original high luster of the fiberglass, periodically wax with a good grade of One-Step cleaner wax.

Repair damaged metal surfaces and use Jacobsen touch-up paint. Wax the equipment for maximum paint protection.

**⚠ CAUTION**

Clean grass and debris from cutting units, drives, muffler, and engine to prevent fires.

**⚠ WARNING**

**NEVER** use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries.

## 4.18 RADIATOR

**⚠ WARNING**

To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait until it is cool. Even then, use extreme care when removing the cap.

**⚠ CAUTION**

Do not pour cold water into a hot radiator. Do not operate engine without a proper coolant mixture. Install cap and tighten securely.

Check coolant level daily. Radiator should be full and recovery bottle should be up to the **cold** mark.

Drain and refill annually. Remove the radiator cap, open the engine block drain and the radiator drain. Empty and clean the recovery bottle.

Mix clean water with ethylene glycol based anti-freeze for the coldest ambient temperature. Read and follow the instructions on the anti-freeze container and engine manual.

Keep radiator air passages clean. Use compressed air (30 psi maximum) to clean the fins.

Check and tighten the fan belt. Replace clamps and hoses every two years.

If you have to add coolant more than once a month, or add more than one quart at a time, have a authorized Jacobsen Dealer check the cooling system.

## 4.19 BACKLAPPING

**⚠ WARNING**

To prevent injury, keep hands, feet, and clothing away from rotating reels.

When the backlap switch is in the BACKLAP position, the reels will turn without the operator in the seat.

Carbon Monoxide in exhaust fumes can be fatal when inhaled, never operate an engine without proper ventilation.

Check the reel and bedknife to determine if backlapping or grinding will restore the cutting edge.

If wear or damage is beyond the point where the cutting edges can be corrected by the lapping process, they must be reground.

**To Backlap:**

1. Adjust reel to bedknife as described in **Sections 3.13 and 3.14**.
2. Obtain and engage the mechanics (backlap) key.
   a. Make absolutely certain your feet and clothing are far away from the reel.
   b. Make sure the parking brake is Engaged, reel switch is Off, backlap switch is Off, and the traction pedal is in Neutral.
   c. Start the engine, turn the mechanics key to Backlap then engage the reel switch. If any of the reels turn, adjust nut (**A**) to stop the reel.
3. Turn nut (**A**) on the reel to be backlapped so the reel turns in reverse. Adjust the reel speed to 100-150 RPM.
   a. Apply lapping compound with a long handle brush to high spots first then along entire length of the reel.
   b. Continue lapping and at the same time make a slight adjustment on the reel until there is a uniform clearance along the full length of the cutting edges.
   c. When the blades have been evenly honed, turn adjusting nut (**A**) to neutral. Carefully and thoroughly remove all lapping compound from reels and bedknife before running the reel in forward direction.
   d. Disengage reel switch and turn backlap switch to Off.
4. Reset reel motors to forward rotation. If reel speeds vary, check nut (**A**) to insure it is turned completely to full forward rotation.
5. Remove and store the backlap key.

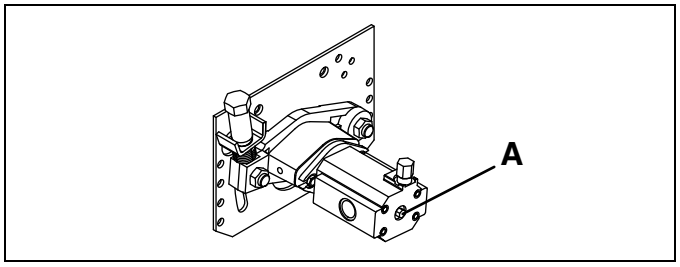



**Figure 4C**

## 4.20 STORAGE

**General**

1. Wash the mower thoroughly and lubricate. Repair and paint damaged or exposed metal.
2. Inspect the mower, tighten all hardware, replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the mower so the load is off the tires. If mower is not on jack stands, check tires at regular intervals and reinflate as necessary.
5. Keep the machine and all its accessories clean, dry, and protected from the elements during storage. Never store equipment near an open flame or spark which could ignite fuel or fuel vapors.

**Battery**

1. Remove, clean, and store battery in upright position in a cool, dry place.
2. Check and recharge battery every 60 to 90 days while in storage.
3. Store batteries in a cool, dry place. To reduce the self discharge rate, room temperature should not be above 80°F (27°C) or fall below 20°F (-7°C) to prevent electrolyte from freezing.

**Engine (General)**

1. While the engine is warm, remove the drain plug, drain the oil from the crankcase, and change oil filter. Install drain plug and refill with fresh oil. Let engine cool before starting.
2. Clean exterior of engine. Paint exposed metal, or apply a light coat of rust preventative oil.
3. Add a fuel conditioner or biocide to prevent gelling or bacterial growth in fuel. See your local fuel supplier.

**Cutting Units**

1. Wash the cutting units thoroughly, then repair and paint any damaged or exposed metal.
2. Lubricate all fittings and friction points.
3. Backlap the reels then back the reel away from the bedknife. Apply a light coat of rust preventative oil to the sharpened edges of the reel and bedknife.

**⚠ CAUTION**

To prevent personal injury and damage to the cutting edges, handle the reel with extreme care

**After Storage**

1. Check and reinstall battery.
2. Check or service fuel filter and air cleaner.
3. Check the radiator coolant level.
4. Check oil level in the engine crankcase and hydraulic system.
5. Fill the fuel tank with fresh fuel. Bleed the fuel system.
6. Make certain that the tires are properly inflated.
7. Remove all oil from the reels and bedknife. Adjust bedknife and cutting height.
8. Start and operate the engine at 1/2 throttle. Allow enough time for the engine to become properly warmed and lubricated.

**⚠ WARNING**

Never operate the engine without proper ventilation; exhaust fumes can be fatal when inhaled.

# 5 TROUBLESHOOTING

## 5.1 GENERAL

The troubleshooting chart below lists basic problems that may occur during start-up and operation. For more detailed information regarding the hydraulic and electrical systems contact your area Jacobsen Dealer.

| Symptoms | Possible Causes | Action |
|---|---|---|
| Engine will not start. | 1. Parking brake disengaged, traction pedal not in neutral or reel/ 3WD switch on. | 1. Check operator back-up system and start-up procedure. |
| | 2. Battery low on charge or defective. | 2. Inspect condition of battery and battery connections. |
| | 3. Fuel tank empty or dirty. | 3. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. |
| | 4. Fuse blown. | 4. Replace fuse. |
| Engine hard to start or runs poorly. | 1. Fuel level low, fuel or fuel filter dirty. | 1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. |
| | 2. Air cleaner dirty. | 2. Inspect and replace air filter. |
| | 3. Injectors, fuel pump. | 3. Consult engine manual. |
| | 4. Engine problem. | 4. Consult engine manual. |
| Engine stops. | 1. Fuel tank empty. | 1. Fill with fresh fuel and bleed fuel lines. |
| | 2. Interlocks not set before leaving operator's seat. | 2. Engage parking brake, move traction lever to "N" and set reel control to OFF. |
| Engine overheating. | 1. Coolant level low. | 1. Inspect and add coolant. |
| | 2. Air intake restricted. | 2. Clean cooling air intake. |
| | 3. Water pump belt broken or loose. | 3. Tighten or replace belt. |
| | 4. Engine overload. | 4. Reduce forward speed. |
| Battery not holding charge. | 1. Loose or corroded battery terminals. | 1. Inspect and clean terminals. |
| | 2. Low electrolyte. | 2. Refill to correct level. |
| | 3. Alternator belt loose or broken. | 3. Tighten or replace belt. |
| | 4. Charging system defective. | 4. See engine manual. |
| Reels cut unevenly. | 1. Bedknife-to-reel not adjusted correctly. | Inspect bedknife-to-reel adjustment. |
| | 2. Engine speed too low. | Check engine speed. Run engine at full throttle. |
| | 3. Low hydraulic oil. | Check reservoir level and fill if needed. |
| Mower does not react to traction pedal. | 1. Parking brake engaged. | Disengage parking brake. |
| | 2. Tow Valve Open. | Close Tow Valve. |
| | 3. Low hydraulic oil. | Check reservoir level and fill if needed. |
| Implement does not raise or lower. | 1. Low hydraulic oil. | Check reservoir level and fill as needed. |
| Gauges/Indicator not operating. | 1. Circuit Breaker. | Reset circuit breaker, check bulb. |
| | 2. Loose wiring. | Check electrical connections. |

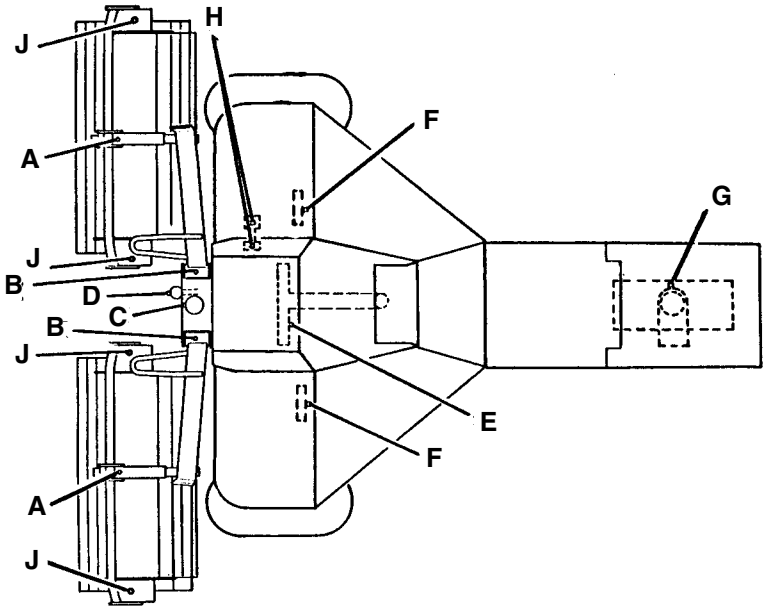
## 6.1 GENERAL

**WARNING**

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries

1. Always clean the grease fitting before and after lubricating.
2. Lubricate with grease that meets or exceeds NLGI Grade 2 LB specifications. Apply grease with a manual grease gun and fill slowly until grease begins to seep out. Do not use compressed air guns.
3. Periodically apply a small amount of lithium based grease to the seat runners.
4. For smooth operation of all levers, pivot points, and other friction points that are not shown on the lubrication chart apply several drops of SAE 30 oil every 40 hours or as required.
5. Grease fittings (**A** - **F**) every 50 hours and fittings (**G** - **K**) every 100 hours.

## 6.2 LUBRICATION CHART




A. Mower Pivot (3 Fittings)
B. Front Lift Arms (2 Fittings)
C. Crank Hub
D. Hydraulic Cylinder
E. Center Lift Arm
F. Control Pedal Pivot (2 Fittings)
G. Steering Yoke
H. Drive Shaft Bearings (2 Fittings)
J. Reel Bearings (6 Fittings)
K. Rollers (As Required)

# 6 MAINTENANCE & LUBRICATION CHARTS

## 6.3 MAINTENANCE CHARTS

**Recommended Service and Lubrication Intervals**

| | Every 8-10 Hours | Every 50 Hours | Every 100 Hours | Every 250 Hours | Every 400 Hours | Every 500 Hours | Every 1000 Hours | Yearly | See Section | Lubricant Type |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Filter | I | | AR | | | | | R | 4.4 | |
| Battery Charge | | | I | | | | | | 4.7 | |
| Belts | I-A* | | I-A | | | R | | | 3.2, 3.3 | |
| Brake | | I-A* | | A | | | | | 3.10 | |
| Cooling System | I-C-A | | | | | | | R | 4.18 | IV |
| Electrical System | | I* | | I | | | | | 4.13 | |
| Engine Oil | I | R* | R | | | | | | 4.3 | II |
| Engine Oil Filter | | R* | R | | | | | | | |
| Fuel System | | I | | | | | | | 4.6 | |
| Fuel Filter | | | | | | R | | | 4.6 | |
| Grease Fittings - All | L | L | L | | | L | | | 6.2 | I |
| Hydraulic Hoses and Tubes | I*** | | | I | | | | | 4.10 | |
| Hydraulic Oil | I-A | | | R** | | | | R** | 4.11 | III |
| Hydraulic Oil Filter | I | R* | | R | | | | | 4.12 | |
| Muffler and Exhaust | I | | | I | | | | | 4.14 | |
| Radiator Screens | I-C/AR | | | | | | | | 4.18 | |
| Tires | | I-A | | | | | | | 4.15 | |

***A - Add or Adjust C - Clean I - Inspect L- Lubricate R - Replace AR - As Required***

* Indicates initial service for new machines.

** Every 250 hours, or yearly whichever comes first.

*** Inspect visible hoses and tubes for leaks or oil marks.

I - Manual grease gun with NLGI Grade 2 (Service Class LB).

II - Engine Oil - See **Section 4.3**.

III - Use Jacobsen GreensCare 68 Biodegradable fluid: Capacity: 5 gallons (19 Liters). Order Part No. 5003103 containing 5 gal. (19 l), pail or Part No. 5003102, 55 gal. (208 l) Drum.

IV - Capacity: 3qt. (2.8 l) 50/50 water ethylene glycol mix.

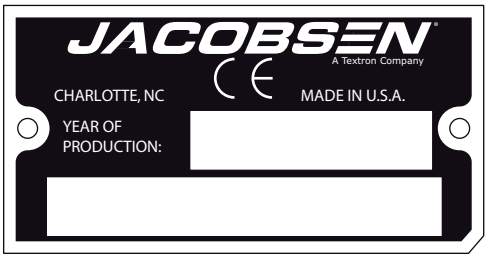
# *PROLOGO*

Este manual contiene instrucciones de ajustes, mantenimiento, resolución de problemas y una lista de piezas de su nueva máquina Jacobsen. Este manual debe con el equipo para poder consultarlo si es necesario.

Antes de utilizar la máquina es necesario que usted y los operarios que usen la máquina lean cuidadosamente el manual. Si se siguen las instrucciones de seguridad, funcionamiento y mantenimiento se prolongará la vida del equipo y será más eficaz.

Si necesita más información póngase en contacto con su distribuidor Jacobsen.

La placa de datos está situada en el bastidor, detrás del neumático delantero. Jacobsen aconseja anotar los números para tener a mano su referencia.




# *Guía de inventario sugerido*

Para mantener el equipo perfectamente operativo y productivo, Jacobsen recomienda mantener un inventario de las piezas de mantenimiento usadas con más normalidad. Hemos incluido los números de piezas de materiales de apoyo y ayudas para formación adicionales.

Para cualquiera de los siguientes materiales:

1. Escriba su nombre completos y dirección en el impreso de pedido.
2. Explique dónde y cómo hacer el envío:
   - ❑ UPS
   - ❑ Correo normal
   - ❑ 1 día
   - ❑ 2 dias
3. Haga el pedido por la cantidad, número y descripción de la pieza que desee.
4. Envíe o lleve el pedido a su distribuidor Jacobsen.

## *Piezas de servicio*

| Cant. | Nº Pieza | Descripción | Cant. | Nº Pieza | Descripción |
|---|---|---|---|---|---|
| | 550489 | Filtro de combustible, motor diesel | | 549579 | Filtro de aceite hidráulico (se requieren 2) |
| | 5000913 | Filtro de aire, motor diesel | | 3001950 | Correa de transmisión de la bomba |
| | 502644 | Filtro de aceite, motor diesel | | 1001958 | Interruptor de la llave de encendido |

## *Material de apoyo al servicio*

| Cant. | Nº Pieza | Descripción |
|---|---|---|
| | 2810631 | Manual de seguirdad y funcionamiento |
| | 2810632 | Manual de piezas y mantenimiento |
| | 3004386 | Manual de piezas del motor |
| | 2810628 | Vídeo de formación del operador |

| Cant. | Descripción |
|---|---|
| | Manual de servicio |

**Advertencia Proposición 65**

El escape del motor de este producto contiene productos químicos que, según el estado de California, pueden producir cáncer, defectos de nacimiento y otros daños reproductivos.

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IMPRESO EN EE.UU. 10-2008

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# 1 SEGURIDAD

## 1.1 MANIPULACION SEGURA

**⚠ ADVERTENCIA**

**EL EQUIPO MANIPULADO INCORRECTAMENTE O POR PERSONAL NO CUALIFICADO PUEDE SER PELIGROSO.**
Familiarícese con la ubicación y la correcta utilización de todos los mandos. Los operadores sin experiencia deben recibir instrucciones de alguien familiarizado con el equipo antes de que se le permita manipular la máquina.

1. La seguridad depende del conocimiento, la preocupación y la prudencia de aquellos que manipulen o pongan en servicio el equipo. No permita nunca a menores manipular ningún equipo.
2. Debe leer este manual y todas las publicaciones relacionadas con este equipo (Manual de seguridad y funcionamiento, manual del motor y hojas de instrucciones de accesorios y herramientas). Si el operardor no puede leer en español, el propietario será responsable de explicarle la información contenida en este manual.
3. Aprenda a utilizar correctamente la máquina, la ubicación y la finalidad de todos los mandos y medidores antes de manipular el equipo. Trabajar con equipo con el que no se está familiarizado puede provocar accidentes.
4. Nunca permita que personas que no han sido convenientemente instruidas y formadas o bajo los efectos del alcohol o las drogas manipulen o pongan en servicio la máquina o sus accesorios.
5. Porte toda la ropa y medios de seguridad personal necesarios para protegerse la cabeza, los ojos, las manos y los pies. Manipule la máquina sólo con luz natural o con buena luz artificial.
6. Inspeccione el terreno para determinar qué accesorios y herramientas son necesarios para realizar el trabajo de modo apropiado y seguro. Utilice accesorios y herramientas aprobados por Jacobsen.
7. Sea consciente de los posibles agujeros en el terreno y otros peligros ocultos.
8. Inspeccione la zona donde va a utilizar el equipo. Recoja toda la basura que encuentre. Tenga en cuenta los obstáculos elevados (ramas de árboles, cables eléctricos, etc.) y subterráneos (aspersores, tuberías, raíces de árboles, etc.). Entre en un área nueva con cuidado. Permanezca alerta de posibles peligros ocultos.
9. No descargue nunca directamente el material hacia los peatones ni deje que nadie se acerque a la máquina mientras ésta esté en funcionamiento. El propietario/ operador puede prevenir y es responsable de las lesiones que se provoquen a sí mismos, a los transeúntes, así como de cualquier daño material.
10. No lleve pasajeros. Manténgase a una distancia segura de peatones y animales.
11. Nunca manipule equipo que no esté funcionando en perfecto orden o sin etiquetas, protecciones, pantallas, deflectores de descarga o cualquier otro dispositivo de protección firmemente fijado en su sitio.
12. Nunca desconecte o derive ningún interruptor.
13. No altere las consignas de regulación del motor ni lo haga funcionar a velocidad excesiva.
14. La inhalación del monóxido de carbono de los gases de escape puede ser fatal. No encienda nunca el motor si no hay una ventilación adecuada o si está en un sitio cerrado.
15. El combustible es un producto sumamente inflamable. Manipúlelo con cuidado.
16. Mantenga limpio el motor. Deje que se enfríe antes de almacenar la máquina y retire siempre la llave de encendido.
17. Desactive todas las transmisiones y ponga el freno de estacionamiento antes de arrancar el motor. Arranque el motor sólo cuando esté sentado en el asiento del operador, nunca estando de pie al lado de la unidad.
18. Cuando se conduzca o transporte en vías públicas, el equipo debe cumplir los requisitos locales y estatales más recientes. Tenga cuidado con el tráfico al cruzar o trabajar en o cerca de carreteras.
19. Las reglamentaciones locales podrán restringir la edad del operador.
20. Maniobre la máquina por pendientes en sentido vertical, nunca horizontalmente.
21. Para evitar un vuelco o pérdida de control, no arranque ni pare repentinamente en pendientes. Reduzca la velocidad al realizar giros. Tenga cuidado al cambiar de dirección.
22. Utilice siempre el cinturón de seguridad cuando maniobre cortacéspedes equipados conprotección antivuelco (ROPS).

    *Nunca lo utilice si los cortacéspedes no disponen de un ROPS.*

    Las estructuras protectoras secundarias para el operador seguirán siendo ofrecidas en todos los equipos cubiertos actualmente. Esto permite la actualización de cualquier máquina sin instalación ROPS anterior o la sustitución de las estructuras dañadas.
23. Mantenga las piernas, brazos y el cuerpo dentro del compartimiento del asiento mientras el vehículo esté en movimiento.
24. Desconecte los conectores eléctricos de la batería y del controlador antes de realizar cualquier soldadura en este cortacésped.

***Esta máquina debe ser manipulada y puesta en servicio según se especifica en este manual y ha sido diseñada para el mantenimiento profesional de céspedes especializados. No está prevista para ser usada en terreno irregular o en zonas con césped alto.***

## 1.2 AVISOS IMPORTANTES SOBRE SEGURIDAD

*Este símbolo de seguridad sirve para alertarle de posibles peligros.*

**PELIGRO** - Indica una situación de inminente peligro que, de no ser evitada, **PROVOCARA** la muerte o graves lesiones.

**ADVERTENCIA** - Indica una situación potencialmente peligrosa que, de no ser evitada, **PUEDE PROVOCAR** la muerte o graves lesiones.

**PRECAUCION** - Indica una situación potencialmente peligrosa que, de no ser evitada, **PODRIA PROVOCAR** lesiones moderadas o daños materiales menores. Puede además utilizarse para advertir contra las prácticas laborales peligrosas.

**AVISO** - Indica una situación potencialmente peligrosa que, de no ser evitada, **PODRIA PROVOCAR** daños materiales. Puede además utilizarse para advertir contra las prácticas laborales peligrosas.

*Para una mayor claridad, algunas de las ilustraciones de este manual podrían mostrar protectores, dispositivos de protección o chapas abiertas o retiradas. Bajo ninguna circunstancia se debe manipular este equipo sin que estén dichos dispositivos firmemente asegurados.*

**ADVERTENCIA**

El sistema de interbloqueo de este cortacésped impide que éste sea arrancado a menos que se active la palanca del freno, se desconecte el interruptor del cortacésped y el pedal de tracción esté en punto muerto. El sistema detendrá el motor si el operador abandona su asiento sin poner el freno de estacionamiento o sin haber desconectado el interruptor del cortacésped.

No maniobre NUNCA el cortacésped sin que esté funcionando el sistema de interbloqueo.

**ADVERTENCIA**

1. Antes de que el operador abandone su puesto:
   a. Ponga el pedal de tracción en punto muerto.
   b. Desactive todas las transmisiones.
   c. Baje al suelo todo el grupo de herramientas de corte.
   d. Ponga el freno de estacionamiento.
   e. Pare el motor y retire la llave de encendido.
2. Aleje las manos, los pies y la ropa de cualquier pieza en movimiento. Espere a que se detengan antes de limpiar, ajustar o poner en servicio la máquina.
3. Despeje el área de trabajo de personas y animales domésticos.
4. Nunca lleve pasajeros a menos que halla un asiento para ellos.
5. Nunca manipule equipo que esté cortando césped sin que el deflector de descarga esté firmemente colocado en su sitio.

Si sigue todas las instrucciones de este manual, conseguirá prolongar la vida de su máquina y mantener su máxima eficacia. Los ajustes y operaciones de mantenimiento siempre deberán ser realizadas por un técnico cualificado.

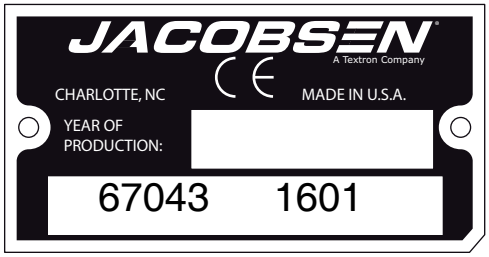
Si necesita más información, póngase en contacto con su distribuidor Jacobsen quien le informará de los métodos de mantenimiento más recientes y le proporcionará un servicio puntual y eficaz. **El uso de piezas y accesorios no autorizados por Jacobsen anulará la garantía.**

# 2 ESPECIFICACIONES

## 2.1 IDENTIFICACION DEL PRODUCTO

67043 ..... Cortacésped Tri-King 1900D, 3WD, motor diesel de 18,5 CV con ROPS. Sin brazos de elevación anteriores, unidades de corte ni batería.

Número de serie ..... En la traviesa posterior del bastidor hay colocada una placa de identificación, como la que se muestra, con el número de serie. Proporcionar siempre el número de serie de la unidad cuando se ordenen piezas de repuesto o se pida información de servicio.




| Producto | Potencia sonora CEE | Nivel de presión sonora Oído del operador | Vibración M/S$^2$ | |
|---|---|---|---|---|
| | | | Brazos | Cuerpo |
| 67043 | 101 dba | 87 dba | 1,4 | <0,08 |

## 2.2 MOTOR

Marca ..... Kubota
Modelo ..... D662-E
Potencia ..... 18,5 CV @3600 rpm
**Nota:** *La potencia sostenida real puede ser inferior a la citada en las especificaciones debido a las limitaciones de funcionamiento y factores ambientales.*
Cilindrada ..... 656 cc
Par ..... 35 Nm @ 2600 rpm
Combustible:
- Tipo ..... No. 2 Diesel
- Régimen ..... Mín. 45 Cetanos
- Capacidad ..... 24,6 litros

Regulador ..... Regulador de bolas
- Ralentí bajo ..... 1100 rpm
- Ralentí alto ..... 3400 rpm

Lubricación:
- Capacidad ..... 3,2 litros con filtro
- Tipo ..... SAE 20W, SAE 30W
- Clasificación API ..... CD, CE

Filtro de Aire ..... Seco con válvula de evacuador e indicador de mantenimiento.
Alternador ..... 40 A

## 2.3 UNIDADES DE CORTE

Carretes ..... 3 carretes, 660 mm de anchura o, 3 carretes de 762 mm de anchura.
Diámetro de carretes ..... 178 mm
Cojinetes ..... Cojinetes cónicos auto ajustables
Opciones de cuchillas ..... 7 cuchillas
Anchura de corte:
- Carretes - 660 mm .... 1828 mm
- Carretes - 762 mm .... 2134 mm

Anchura total:
- Carretes - 660 mm .... 1994 mm
- Carretes - 762 mm .... 2298 mm

Frecuencia de corte:
- 7 Cuchillas ..... 3,8 mm/km/h

## 2.4 CORTACESPED

Llantas:
- Delanteras ..... 20 x 10 - 10 sin tubo
- Traseras ..... 20 x 10 - 8 sin tubo

Presión:
- Delantera ..... 69-83 kPa
- Trasera ..... 55-69 kPa

Batería:
- Tipo ..... 12 Volt Plomo/Acido
- Grupo ..... 22 NF

Freno estacionamiento ... Disco mecánico a la rueda delant. Palanca manual activada

Velocidad:
- Corte ..... 0 - 8 km/h
- Transporte ..... 0 - 13,7 km/h
- Marcha atrás ..... 0 - 3,7 km/h

**Sistema Hidráulico:**
Capacidad ..... Sistema de 20,8 litros
Tipo Fluido ..... GreensCare 68 biodegradable
Filtro Carga ..... 10 micrones
Filtro Línea Retorno ..... 10 micrones
Dirección ..... Dirección asistida hidrostática

## 2.5 PESOS Y DIMENSIONES

| Dimensiones: | mm |
|---|---|
| Longitud | 2519 |
| Altura | 1308 |
| Anchura - Rueda | 1638 |

| Pesos: | kg |
|---|---|
| 67043 1900D (cortacésped base,sin carretes) | 655 |

## 2.6 ACCESORIOS E INFORMACION ADICIONAL

Ponerse en contacto con su distribuidor Jacobsen para recibir una lista completa de accesorios y herramientas.

**⚠ PRECAUCION**

El uso de piezas y accesorios que no sean productos autorizados por Jacobsen pueden causar lesión personal o daño al equipo y anularán la garantía.

**Accesorios**

| | |
|---|---|
| Pistola de aire | JAC5098 |
| Pintura para retoques naranja (spray de 340 ml) | 554598 |
| ROPS de 2 puntos con cinturón de seguridad | 69157 |
| Juego de luces | 69149 |
| Reposabrazos | 4139431 |
| Recogedores de hierba para carrete de 660 mm | 69151 |
| Recogedores de hierba para carrete de 762 mm | 69150 |
| Juego de carrete de 600 rpm (Unidades 1900D) | 5003062 |
| Juego de presión descendente | 1002588 |

**Carretes**

| | |
|---|---|
| Carrete izquierdo de 7 cuchillas de 660 mm | 67114 |
| Carrete derecho de 7 cuchillas de 660 mm | 67115 |
| Carrete central de 7 cuchillas de 660 mm | 67116 |
| Carrete izquierdo de 7 cuchillas de 762 mm | 67123 |
| Carrete derecho de 7 cuchillas de 762 mm | 67124 |
| Carrete central de 7 cuchillas de 762 mm | 67125 |
| Unidad de corte vertical izquierda de 660 mm | 67139 |
| Unidad de corte vertical derecha de 660 mm | 67140 |
| Unidad de corte vertical central de 660 mm | 67141 |

**Rodillos**

| | |
|---|---|
| Rodillo delantero acanalado (acero) para carrete de 660 mm | 67731 |
| Rodillo delantero acanalado (acero) para carrete de 762 mm | 67729 |
| Rodillo sólido para carrete de 660 mm | 132639 |
| Rodillo sólido para carrete de 762 mm | 132640 |
| Raspador del rodillo delantero para carrete de 660 mm | 69147 |
| Raspador del rodillo delantero para carrete de 762 mm | 69148 |
| Raspador del rodillo trasero para carrete de 660 mm | 67909 |
| Raspador del rodillo trasero para carrete de 762 mm | 67910 |

**Información adicional**

| | |
|---|---|
| Manual de seguridad y funcionamiento | 2810631 |
| Manual de piezas y mantenimiento | 2810632 |
| Catálogo de piezas del motor diesel | 3004386 |
| Vídeo de formación del operador | 2810628 |
| Manual de servicio y reparación | |

# 3 AJUSTES

## 3.1 GENERALIDADES

**⚠ ADVERTENCIA**

Para evitar lesiones, antes de ajustar, limpiar o reparar este equipo, baje los accesorios al suelo, desconecte todos los mandos, ponga el freno de estacionamiento, apague el motor y quite la llave del interruptor de encendido.

Asegúrese de que el cortacésped esté aparcado en una superficie sólida y llana. No trabaje nunca en un cortacésped que esté suejto sólamente por un gato. Utilice siempre soportes para gato.

Si sólo esta subida la parte delantera o trasera del cortacésped, ponga calzos delante y detrás de las ruedas que no estén subidas.

1. Los ajustes y las tareas de mantenimiento deben ser realizadas siempre por un técnico cualificado. Si no puede realizar los ajustes correctamente, póngase en contacto con un distribuidor autorizado Jacobsen.
2. Cambie, no ajuste, los componentes desgastados y dañados.
3. El pelo largo, las joyas o la ropa suelta pueden trabarse en las partes móviles.

**⚠ PRECAUCIÓN**

Evite que las manos y los dedos queden atrapados entre componentes en movimiento y componentes fijos.

4. No modifique los valores del regulador ni sobrepase la velocidad de régimen de la máquina.

## 3.2 CORREA DEL VENTILADOR

Inspeccione y ajuste toda correa nueva después de las primeras diez horas de funcionamiento. Posteriormente, ajústela cada 100 horas.

1. Ajuste la polea del alternador para que la correa **(B)** flexe entre 7 y 9 mm con un empuje de 10 kgf en el tramo medio entre poleas.
2. Si la tensión es incorrecta, afloje los pernos de montaje del alternador **(A)** y ajuste el alternador hasta que la tensión de la correa sea la idónea. Apriete los pernos **(A)**.

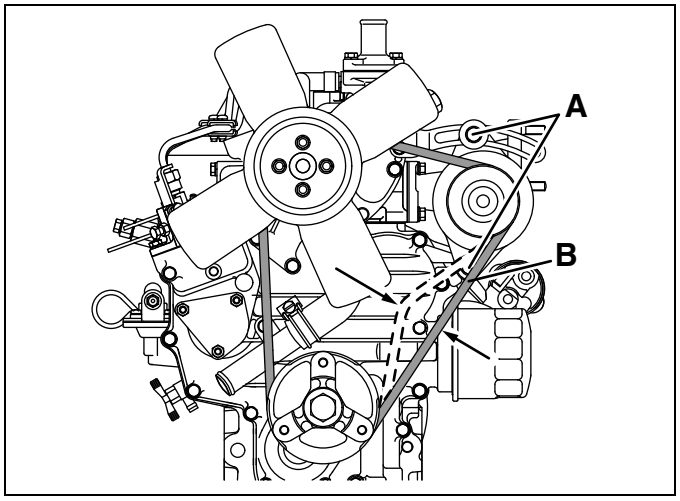



**Figura 3A**

## 3.3 CORREA DE LA DIRECCION DE LA BOMBA

Ajuste la correa del carrete **(C)** para que se doble 6 mm con una fuerza de 2-3 kgf aplicada en el tramo medio.

1. Afloje los pernos **(D y E)**.
2. Bajar la unidad de bomba/embrague para aumentar la tensión en la correa **(C)** y apretar los accesorios **(D y E)**.
3. Torsión de los accesorios **(D y E)** a 37-45 Nm.

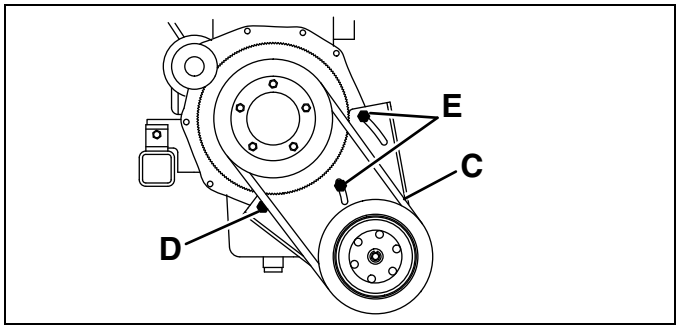



**Figura 3B**

## 3.4 INTERRUPTORES DE PUNTO MUERTO Y 3WD

1. Revisar el ajuste del pedal de tracción.
2. Usar un voltímetro/ohmímetro para establecer cuando se abre y cierra el interruptor.
   a. Ajustar el interruptor **(G)** para que el “dedo” del brazo actuador **(F)** esté centrado sobre la parte sensora del interruptor. Los contactos del interruptor se deberán cerrar cuando el pedal de tracción está en punto muerto y abrir con el mínimo recorrido del pedal en dirección hacia adelante o reversa.
   b. Ajustar el interruptor 3WD **(H)** para que los contactos se abran con el pedal de tracción en punto muerto, y se cierren con el mínimo recorrido del pedal en dirección hacia adelante.

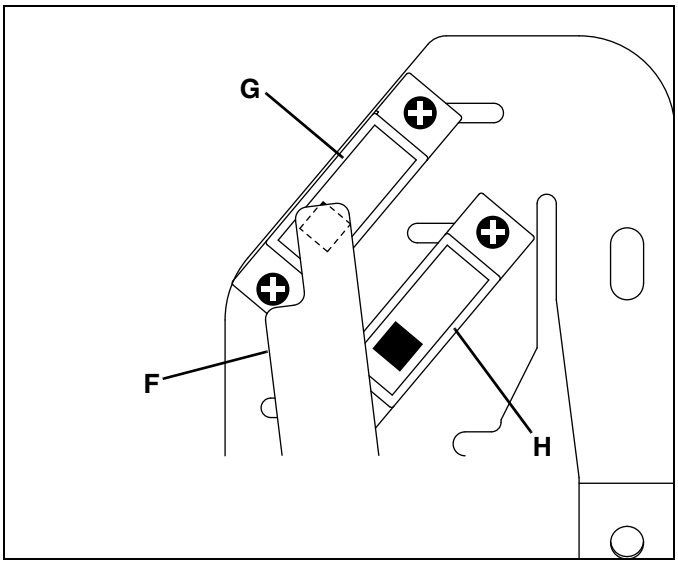



**Figura 3C**

## 3.5 INTERRUPTORES DE FRENO DE ESTACIONAMIENTO

Aflojar los tornillos **(K)** y ajustar los dos interruptores para que los contactos apenas se cierren cuando se mueva la palanca de freno a la posición engranada y apretar los tornillos.

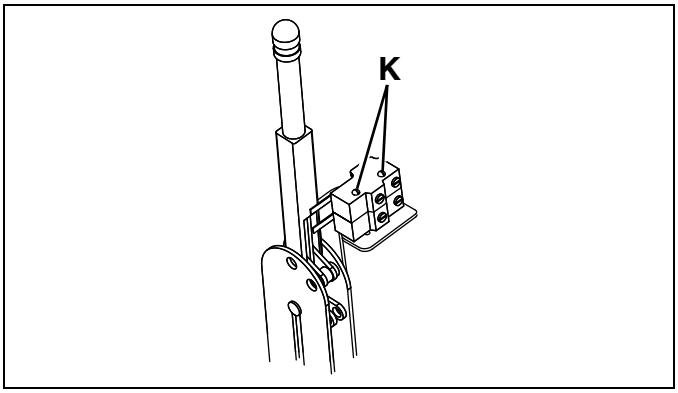



**Figura 3D**

## 3.6 INTERRUPTOR DE LIMITE DE ELEVACION

El interruptor de límite de elevación se debe ajustar para que los carretes dejen de girar antes del plano de corte entre el carrete y el alcance del terreno 400 mm. Para ajustar, aflojar el tornillo **(L)** y ajustar el brazo **(M)**.

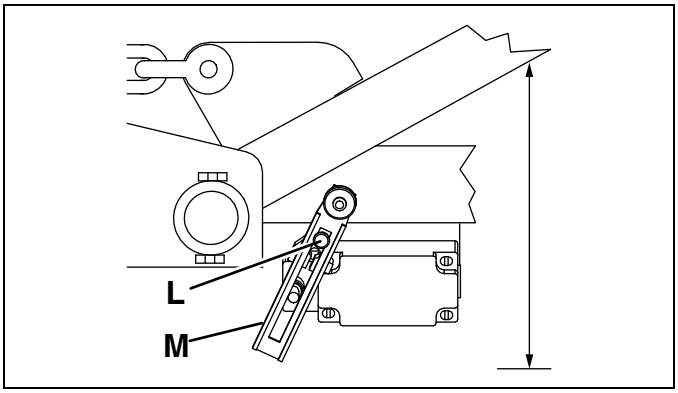



**Figura 3E**

# 3 AJUSTES

## 3.7 PEDAL DE TRACCION EN PUNTO MUERTO

1. Si el cortacésped va muy lento en cualquier dirección con el motor en marcha pero sin apretar el pedal de tracción, ajustar la tensión del muelle para que el pedal siempre vuelva a punto muerto cuando se suelte.

   **Nota:** *El cortacésped puede ir muy lento cuando el aceite hidráulico está muy frío. Hacer funcionar el cortacésped durante 15 minutos antes de establecer si es necesario un ajuste.*

2. Tener extremada precaución al hacer este ajuste ya que las ruedas estarán elevadas del terreno y el motor en marcha.
3. Poner el freno de estacionamiento, parar el motor, abrir los capós y lubricar todas las conexiones pivotantes**.**
4. Poner calzos a la rueda trasera, y colocar la parte delantera del cortacésped sobre gatos de soportes.
5. Aflojar todas las tuercas **(N)** y ajustar el muelle posterior para colocar el brazo de tracción en punto muerto.
   a. Bloquear las tuercas posteriores y ajustar las tuercas anteriores **(N)** para mantener 9 mm de extensión en el muelle **(O)**.
   b. Arrancar el motor y comprobar si se mueve, entonces repetir el proceso en caso necesario.

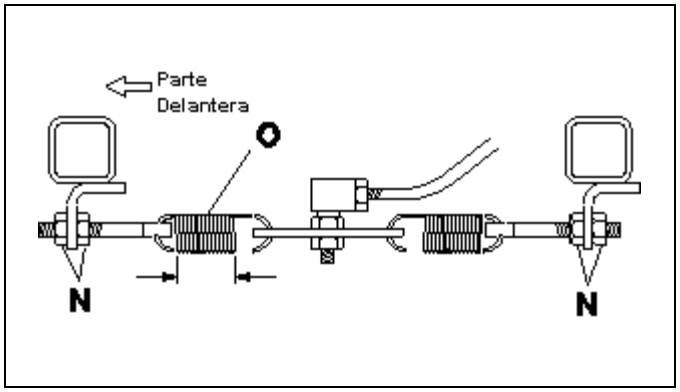



**Figura 3F**

## 3.8 PARADA DEL PEDAL DE TRACCION HACIA ADELANTE

Aflojar las tuercas **(P)** mover el pedal de tracción a su posición máxima hacia adelante. Ajustar el tornillo **(Q)** hasta que el cabezal apenas toque el brazo del pedal de tracción. Volver el pedal de tracción a punto muerto y girar el tornillo **(Q)** una vuelta completa. Apretar las tuercas **(P)**.

**IMPORTANTE:** El tornillo **(Q)** debe parar al pedal de tracción antes de conectar los topes internos en la transmisión hidrostática.

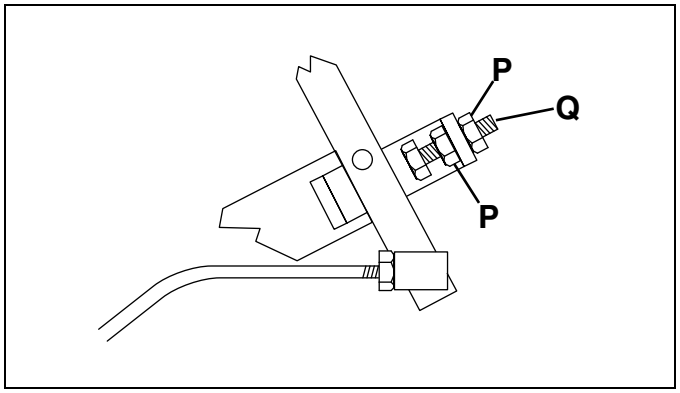



**Figura 3G**

## 3.9 PEDAL PARADA ELEVACION/DESCENSO

Ajustar los pernos (**R y S**) para evitar que la válvula de bobina golpee los topes internos, mientras se mantiene la carrera total de la bobina.

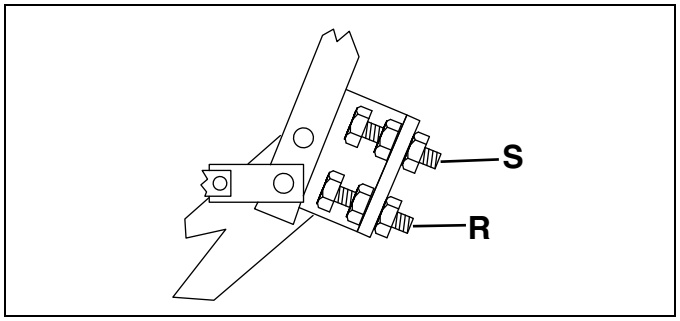



**Figura 3H**

## 3.10 FRENO DE ESTACIONAMIENTO

1. Revisar los cables de conexión y pivotes para asegurar que funcionan con suavidad.
2. Estacionar el cortacésped en una cuesta de 30% (16,7°) cerca del fondo de la cuesta, con la parte delantera del cortacésped mirando hacia abajo. Engranar el freno de estacionamiento y parar el motor.
   a. El cortacésped se debe sujetar en la cuesta sin caer lentamente.
   b. Si los frenos no lo sujetan, arrancar el motor, desengranar el freno y conducir hasta el fondo de la cuesta.

**⚠ PRECAUCION**

**NO** quitar los frenos con el motor parado.

3. Con el freno de estacionamiento engranado, girar el botón de ajuste a la derecha, poniendo y quitando el freno cada cuarto de vuelta hasta que se alcance una acción definitiva de “clic sobre el centro”.
4. Repetir la prueba en la cuesta en caso necesario.

   **Nota:** *Un ajuste excesivo causará una dura acción en la palanca, pero no aumenta la eficacia de frenado.*

## 3.11 BRAZO POSTERIOR DE ELEVACION

1. La posición del brazo posterior de elevación se ajusta correctamente cuando los parachoques del cortacésped posterior presionan ligeramente contra la parte inferior de los reposapiés.
2. Desconectar la cadena de elevación **(T)** de la manivela y ajustar la articulación de bola **(U)** en caso necesario.

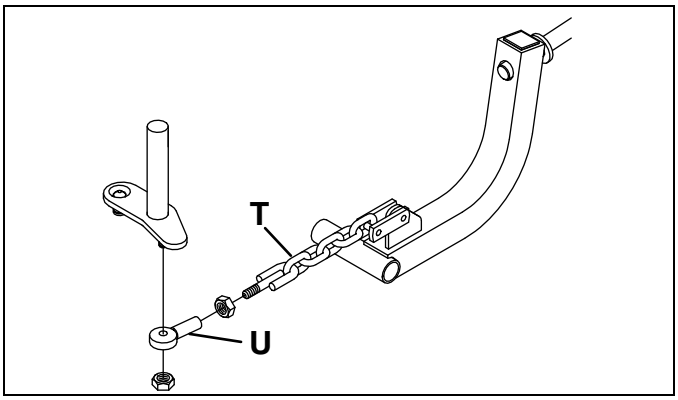



**Figura 3I**

## 3.12 PRESION DESCENDENTE

1. Colocar las unidades de corte en el modo Fijo (**Sección 3.18**) y ponerlas en una balanza que pueda pesar 113 kg. El rodillo posterior del cortacésped debe estar sobre la balanza.
2. Para ajustar la presión en el cortacésped posterior aflojar las tuercas **(V)** y ajustar a la presión necesaria.
3. Para ajustar la presión en los cortacéspedes anteriores, aflojar la tuerca **(W)** y ajustar el perno **(X)**. La rosca mínima debe ser de 13 mm.
4. Para mantener una altura de corte constante, la reducción de presión se debe ajustar por igual en las tres unidades de corte.
5. Jacobsen recomienda el peso del cortacésped para el modo Flotante en 27 kg, y para el modo Fijo 41 kg.

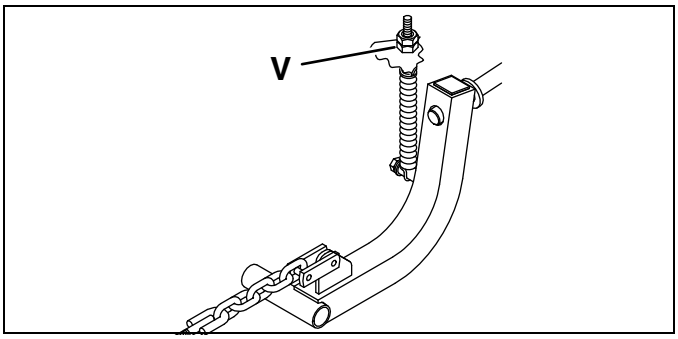



**Figura 3J**

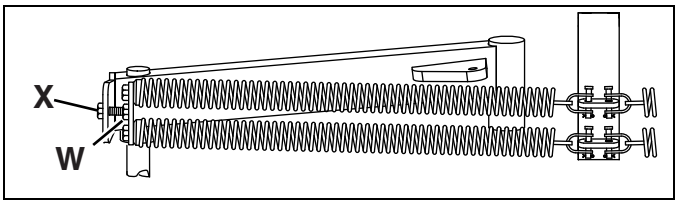



**Figura 3K**

## 3.13 CARRETE A CUCHILLA FIJA

(Revisión antes del ajuste)

1. Revisar los cojinetes del carrete en caso de holgura longitudinal o radial. Si hay algún movimiento anormal en el carrete, arriba o abajo o lateral, ajustar o cambiar los componentes según necesidad.

**⚠ PRECAUCION**

Manejar el carrete con sumo cuidado para impedir que ocurran lesiones personales y daños a los bordes de corte.

2. Inspeccionar las cuchillas del carrete y la cuchilla fija para asegurar filos bien afilados, sin curvaturas ni hendiduras.
   a. El borde anterior de las cuchillas de los carretes debe estar afilado, sin rebabas y sin indicios de estar redondeado.
   b. La cuchilla fija y su soporte de respaldo deben estar firmemente sujetos. La cuchilla fija debe estar recta y afilada.
   c. Es necesario mantener una superficie plana de al menos 4 mm en la cara frontal de la cuchilla fija. Usar una lima plana corriente para reavivar la cuchilla fija.
3. Si el desgaste o los daños sobrepasan el punto en que puede corregirse el carrete o la cuchilla fija mediante el proceso de lapidado, se deben rectificar.
4. El ajuste correcto entre el carrete y la cuchilla fija es esencial. Se debe mantener una separación de 0,025 a 0,076 mm a lo largo de toda la longitud del carrete y la cuchilla fija.
5. El carrete debe estar paralelo respecto a la cuchilla fija. Si el carrete está mal ajustado, perderá su filo prematuramente y el carrete y cuchilla fija pueden sufrir daños graves.
6. Las condiciones del césped también afectan el ajuste.
   a. El césped seco y ralo requerirá una mayor separación para impedir el aumento de calor y daños al carrete y cuchilla fija.
   b. Si se corta hierba de alta calidad con buen contenido de humedad, la separación debe ser más pequeña (casi nula).

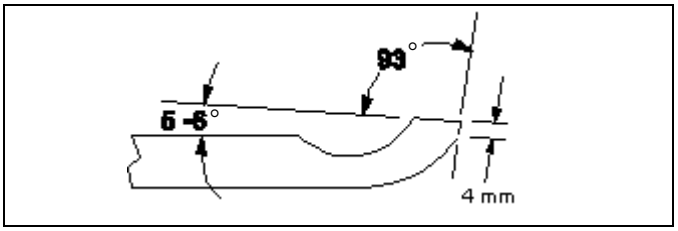



**Figura 3L**

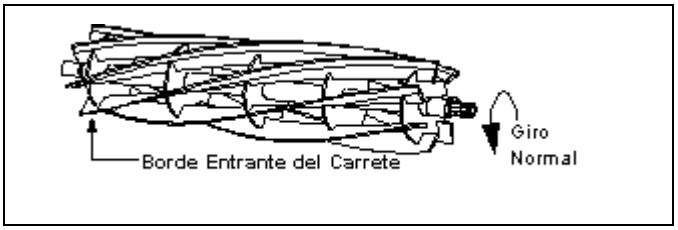



**Figura 3M**

## 3.14 AJUSTE DE LA CUCHILLA FIJA

1. Lea la **Sección 3.13** antes de realizar ningún ajuste.
2. Comience el ajuste en el extremo de ataque del carrete y después en el extremo de cola. *El extremo de ataque de las cuchillas de los carretes es aquel que pasa sobre la cuchilla fija en primer lugar durante la rotación normal de los carretes.*
3. Aflojar la tuerca **(C)** 1/4 de vuelta a ambos lados de la unidad de corte.
   a. Girar el ajustador **(A)** en incrementos de 1/16 a 1/8 vuelta.
   b. Introducir una galga o calzo de 0,025 mm entre la cuchilla del carrete y la cuchilla fija. Sin girar el carrete.
   c. Ajuste el extremo de cola del carrete con el mismo huelgo y de la misma forma, seguidamente vuelva a comprobar el ajuste del extremo de ataque.
   d. Apretar todos los accesorios y comprobar de nuevo el ajuste.
   e. Una vez correctamente ajustado a la cuchilla fija, el carrete debe girar libremente y ser capaz de cortar un trozo de periódico en toda su longitud sujetando el papel en un ángulo de 90° respecto de la cuchilla fija.

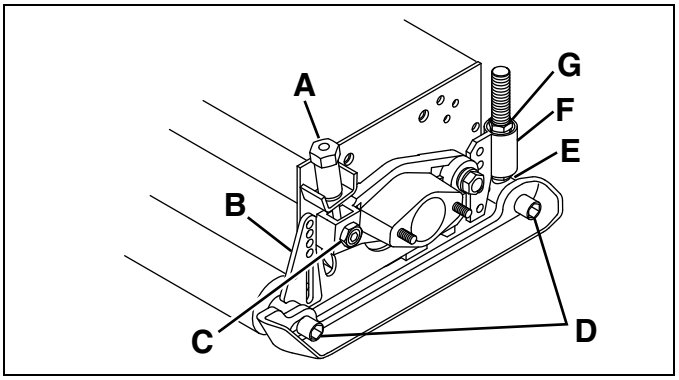



**Figura 3N**

## 3.15 MODOS DE CORTE

1. El cortacésped se puede operar en modo Fijo o Flotante.
2. El modo Fijo se usa generalmente para cortar alturas superiores a 25 mm, y el cortacésped no necesita un rodillo delantero a menos que el terreno sea abrupto y desnivelado.

   Si se necesita un rodillo delantero, se deberá levantar el rodillo 6 mm más alto que el rodillo trasero y usar sólo para tareas anti despelusado.
3. El modo Flotante generalmente se usa para cortar alturas de menos de 25 mm y se necesita un rodillo delantero.

   Si se usa un rodillo delantero sólido de 63 mm, la altura de corte variará de 9 a 54 mm.

   Si se usa un rodillo delantero acanalado de 76 mm, la altura de corte variará de 9 a 57 mm.
4. Para cambiar el cortacésped de modo Fijo a Flotante, retirar los accesorios **(H)** de cada lado de los bastidores de las tres unidades de corte.

   Instalar un rodillo delantero y guardar el accesorio **(H)** para conversión futura de modo Fijo a Flotante.
5. Para convertir la unidad de corte de modo Flotante a Fijo, montar el accesorio **(H)** como se indica y retirar o levantar el rodillo delantero.

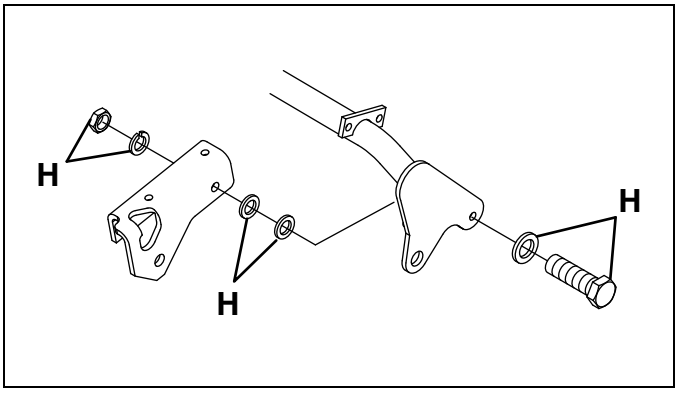



**Figura 3O**

## 3.16 AJUSTE DE LA ALTURA DE CORTE

1. Levantar y cerrar los brazos de elevación en modo de transporte.
2. Para un acceso más fácil a los ajustadores de altura en el extremo del motor de los carretes delanteros, Jacobsen recomienda levantar el extremo anterior del cortacésped apenas unos centímetros del terreno y con cuidado para no dañar los manguitos, inclinar las unidades de corte delanteras 90 grados y atar con cuerda las unidades de corte juntas.
3. En el cortacésped trasero (centro) retirar el pasador en el eje y retirarlo hacia detrás.
4. Hacer siempre el ajuste de carrete a cuchilla fija (**Secciones 3.13 y 3.14**) **antes** de hacer el ajuste de altura de corte.
5. Seleccionar el modo Fijo o Flotante y cambiar el cortacésped como proceda.
6. Aflojar el accesorio de montura del patín (**D - Figura 3N**) y ajustar la altura de corte. (Está incluída una herramienta especial con las unidades de corte. Es necesario una llave dentada hueca de 16 mm).

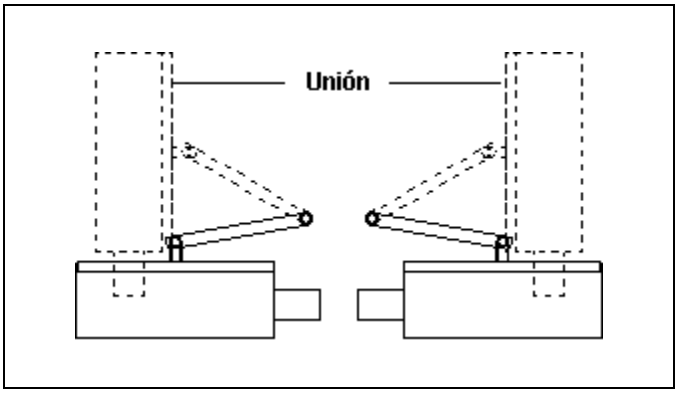



**Figura 3P**

## 3.17 RETIRADA DE LA UNIDAD DE CORTE

1. Para evitar contaminación del sistema hidráulico, así como pérdida de aceite, no desconectar los manguitos del motor.

**⚠ PRECAUCION**

Desconectar los muelles de elevación antes de retirar el cortacésped.

2. Levantar y cerrar los brazos de elevación en el modo de transporte (**Sección 3.4**) y desconectar los muelles de reducción de presión.
3. Retirar el pasador de transporte y bajar los brazos de elevación al terreno.
4. Retirar el accesorio que sujeta el motor al bastidor y con cuidado sacar el motor.
5. Colocar el motor en una bolsa de plástico transparente y cubrir la apertura en la caja de cambios.
6. Retirar el pasador y el collarín del brazo de elevación central (posterior) y sacar la unidad de corte central del cortacésped.
7. Retirar el accesorio que sujeta los brazos delanteros de elevación a las unidades de corte, y sacar las unidades de corte completamente.

## 3.18 ALTURA DE CORTE - MODO FIJO

***Seguir el proceso indicado en la Sección 3.16.***

1. Colocar de nuevo el ajustador del rodillo posterior.
   a. Para alturas de corte de 9 a 44 mm usar los orificios **(M)** en el bastidor de el cortacésped y dos orificios (indicados en negro) del ajustador de altura **(F)** como se indica.
   b. Para alturas de corte superiores a 44 mm desmontar el ajustador **(F)** y poner boca abajo la abrazadera de montura; entonces usar los orificios **(N)** del bastidor y dos orificios (indicados en negro) del ajustador **(F)**.
2. Retirar la cuerda, y bajar las unidades de corte al terreno.
3. Colocar espaciadores de la altura necesaria **(J)** debajo de cada extremo del carril, junto al borde delantero de la cuchilla fija.
4. Aflojar la tuerca **(G)** y bajar el rodillo posterior al terreno. Apretar la tuerca **(E)** contra el ajustador y revisar de nuevo el ajuste en ambos lados del carrete. Ajustar de nuevo en caso necesario.
5. Instalar el ajustador del rodillo anterior **(B)** (Si es necesario un rodillo) en los orificios número 2 y 4 solamente del bastidor del cortacésped. No usar los orificios número 1 y 3. Ajustar el rodillo a 6 mm encima del rodillo posterior.

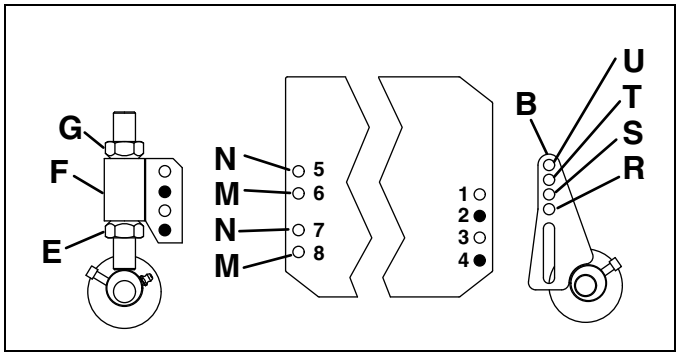



**Figura 3Q**

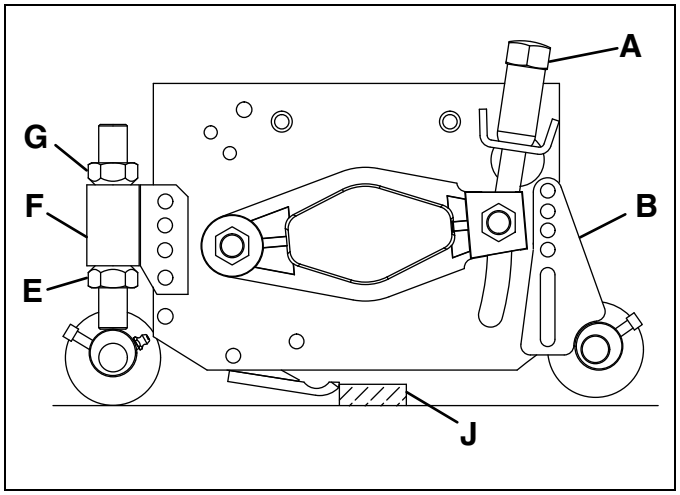



**Figura 3R**

## 3.19 ALTURA DE CORTE - MODO FLOTANTE

***Seguir los procesos indicados en la Sección 3.16.***

1. Montar el ajustador del rodillo anterior **(B)** a los orificios número 2 y 4 solamente del bastidor del cortacésped. No usar los orificios número 1 y 3. Consultar el siguiente cuadro para el orificio correcto a usar del ajustador del rodillo anterior.
2. Colocar de nuevo los ajustadores del rodillo posterior **(F)**.
   a. Para alturas de corte de 9 a 44 mm usar los orificios **(M)** en el bastidor del cortacésped y dos orificios (indicados en negro) del ajustador de altura **(F)** como se indica.
   b. Para alturas de corte superiores a 44 mm desmontar el ajustador **(F)** y poner boca abajo la abrazadera de montura **(N)** del bastidor y dos orificios (indicados en negro) del ajustador **(F)**.
3. Aflojar la tuerca **(L)** y ajustar el tornillo **(K)** para obtener la altura de corte deseada **(X)** y cerrar la tuerca **(L)** contra el calibre **(P)**.
4. Colocar un extremo de la galga debajo del rodillo anterior en cada extremo del carrete, y sacar la cabeza del tornillo **(K)** por la cuchilla fija.
   a. Ajustar la tuerca **(G)** para bajar el rodillo posterior del calibre y apretar la tuerca **(E)** contra el ajustador.
   b. Mover el calibre al otro extremo del carrete y repetir los Pasos 4a y 4b.

| Rango de corte | | | | | |
|---|---|---|---|---|---|
| **Rodillo acanalado** | | **Rodillo macizo** | | Anterior | Posterior |
| **Pulgadas** | **Milímetros** | **Pulgadas** | **Milímetros** | | |
| 3/8 - 3/4 | 10 - 19 | 3/8 - 5/8 | 10 - 16 | R | M |
| 3/4 - 1-1/4 | 19 - 32 | 5/8 - 1-1/8 | 16 - 29 | S | M |
| 1-1/4 - 1-3/4 | 32 - 44 | 1-1/8 - 1-5/8 | 29 - 41 | T | M |
| 1-3/4 - 2-1/4 | 44 - 57 | 1-5/8 - 2-1/8 | 41 - 54 | U | N |

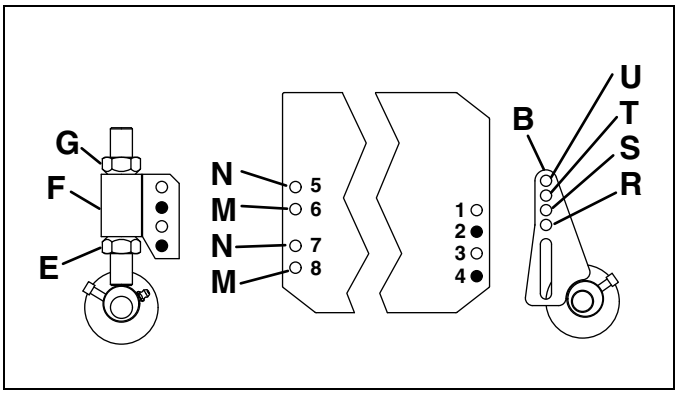



**Figura 3S**

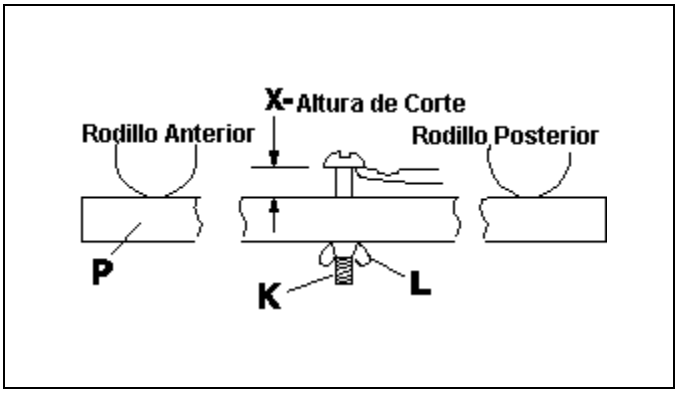



**Figura 3T**

# 3 AJUSTES

## 3.20 ESPECIFICACIONES DEL PAR DE TORSION

**AVISO**

Los valores de par de torsión de estas tablas son aproximados y sólo sirven como referencia. La utilización de estos valores no es responsabilidad nuestra. Jacobsen no se hace responsable de ninguna pérdida, reclamación o daño surgido por la utilización de estas tablas. **Tenga siempre especial cuidado al utilizar valores de par de torsión.**

Jacobsen utiliza pernos metalizados Grado 5 de serie, a menos que se cite lo contrario. Para tensar pernos metalizados, utilice el valor dado para los lubricados.

**FIJADORES ESTANDAR NACIONALES AMERICANOS**

| TAMAÑO | UNIDADES | GRADO 5 | | GRADO 8 | | TAMAÑO | UNIDADES | GRADO 5 | | GRADO 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Lubricado | Seco | Lubricado | Seco | | | Lubricado | Seco | Lubricado | Seco |
| #6-32 | in-lb (Nm) | – | 20 (2,3) | – | – | 7/16-14 | ft-lb (Nm) | 37 (50,1) | 50 (67,8) | 53 (71,8) | 70 (94,9) |
| #8-32 | in-lb (Nm) | – | 24 (2,7) | – | 30 (3,4) | 7/16-20 | ft-lb (Nm) | 42 (56,9) | 55 (74,6) | 59 (80,0) | 78 (105) |
| #10-24 | in-lb (Nm) | – | 35 (4,0) | – | 45 (5,1) | 1/2-13 | ft-lb (Nm) | 57 (77,2) | 75 (101) | 80 (108) | 107 (145) |
| #10-32 | in-lb (Nm) | – | 40 (4,5) | – | 50 (5,7) | 1/2-20 | ft-lb (Nm) | 64 (86,7) | 85 (115) | 90 (122) | 120 (162) |
| #12-24 | in-lb (Nm) | – | 50 (5,7) | – | 65 (7,3) | 9/16-12 | ft-lb (Nm) | 82 (111) | 109 (148) | 115 (156) | 154 (209) |
| 1/4-20 | in-lb (Nm) | 75 (8,4) | 100 (11,3) | 107 (12,1) | 143 (16,1) | 9/16-18 | ft-lb (Nm) | 92 (124) | 122 (165) | 129 (174) | 172 (233) |
| 1/4-28 | in-lb (Nm) | 85 (9,6) | 115 (13,0) | 120 (13,5) | 163 (18,4) | 5/8-11 | ft-lb (Nm) | 113 (153) | 151 (204) | 159 (215) | 211 (286) |
| 5/16-18 | in-lb (Nm) | 157 (17,7) | 210 (23,7) | 220 (24,8) | 305 (34,4) | 5/8-18 | ft-lb (Nm) | 128 (173) | 170 (230) | 180 (244) | 240 (325) |
| 5/16-24 | in-lb (Nm) | 173 (19,5) | 230 (26,0) | 245 (27,6) | 325 (36,7) | 3/4-10 | ft-lb (Nm) | 200 (271) | 266 (360) | 282 (382) | 376 (509) |
| 3/8-16 | ft-lb (Nm) | 23 (31,1) | 31 (42,0) | 32 (43,3) | 44 (59,6) | 3/4-16 | ft-lb (Nm) | 223 (302) | 298 404 | 315 (427) | 420 (569) |
| 3/8-24 | ft-lb (Nm) | 26 (35,2) | 35 (47,4) | 37 (50,1) | 50 (67,8) | 7/8-14 | ft-lb (Nm) | 355 (481) | 473 (641) | 500 (678) | 668 (905) |

**FIJADORES METRICOS**

| TAMAÑO | UNIDADES | 4,6 | | 8,8 | | 10,9 | | 12,9 | | Fijadores no críticos para el aluminio |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Lubricado | Seco | Lubricado | Seco | Lubricado | Seco | Lubricado | Seco | |
| **M4** | Nm (in-lb) | – | – | – | – | – | – | 3,83 (34) | 5,11 (45) | 2,0 (18) |
| **M5** | Nm (in-lb) | 1,80 (16) | 2,40 (21) | 4,63 (41) | 6,18 (54) | 6,63 (59) | 8,84 (78) | 7,75 (68) | 10,3 (910 | 4,0 (35) |
| **M6** | Nm (in-lb) | 3,05 (27) | 4,07 (36) | 7,87 (69) | 10,5 (93) | 11,3 (102) | 15,0 (133) | 13,2 (117) | 17,6 (156) | 6,8 (60) |
| **M8** | Nm (in-lb) | 7,41 (65) | 9,98 (88) | 19,1 (69) | 25,5 (226) | 27,3 (241) | 36,5 (323) | 32,0 (283) | 42,6 (377) | 17,0 (150) |
| **M10** | Nm (ft-lb) | 14,7 (11) | 19,6 (14) | 37,8 (29) | 50,5 (37) | 54,1 (40) | 72,2 (53) | 63,3 (46) | 84,4 (62) | 33,9 (25) |
| **M12** | Nm (ft-lb) | 25,6 (19) | 34,1 (25) | 66,0 (48) | 88,0 (65) | 94,5 (70) | 125 (92) | 110 (81) | 147 (108) | 61,0 (45) |
| **M14** | Nm (ft-lb) | 40,8 (30) | 54,3 (40) | 105 (77) | 140 (103) | 150 (110) | 200 (147) | 175 (129) | 234 (172) | 94,9 (70) |

## 3.21 PAR DE TORSION ESPECIFICO

1. Juntas de bola de la barra: (2) 41- 47 Nm.
2. Tapones vaciado motor: 30 Nm.
3. Articulaciones bola dirección: 68 - 75 Nm.
4. Tuerca volante: 41 - 51 Nm.
5. Accesorio rueda: 88 - 116 Nm.

## 4.1 GENERALIDADES

**⚠ ADVERTENCIA**

Al objeto de evitar lesiones, antes de limpiar, ajustar o reparar el equipo, desactive todas las transmisiones, baje al suelo el grupo de herramientas de corte, ponga el freno de estacionamiento, pare el motor y retire la llave de contacto.

Asegúrese de que el cortacésped está aparcado sobre una superficie sólida y llana. Nunca trabaje en un cortacésped que sólo esté apoyado sobre un gato. Utilice siempre soportes para gatos.

1. Los ajustes y las tareas de mantenimiento siempre deben ser acometidas por un técnico cualificado. Si no es posible realizar los ajustes deseados, póngase en contacto con un distribuidor Jacobsen autorizado.
2. Revisar el equipo regularmente, establecer u programa de mantenimiento y mantener los registros detallados.
   a. Mantener el equipo limpio.
   b. Mantener todas las piezas móviles debidamente ajustadas y lubricadas.
   c. Cambiar las piezas gastadas o dañadas antes de operar la máquina.
   d. Mantener todos los fluidos a los niveles correspondientes
   e. Mantener las protecciones en su lugar y todo el equipo bien sujeto.
   f. Mantener las llantas debidamente infladas.
3. No llevar joyas ni ropa suelta al hacer ajustes o reparaciones.
4. Usar las ilustraciones en el Catálogo de Piezas como referencia para desmontar y volver a montar los componentes.
5. Reciclar o tirar todos los materiales peligrosos (baterías, combustible, lubricantes, anti congelante, etc.) conforme a las normativas locales, estatales o federales.

## 4.2 MOTOR

**IMPORTANTE: Con esta máquina se incluye un Manual del Motor adicional, preparado por el fabricante del motor. Lea este manual detenidamente hasta familiarizarse con la operación y mantenimiento del motor. La atención adecuada a las indicaciones del fabricante asegurarán una vida de servicio máxima del mismo. Para pedir manuales de recambio del motor se deberá poner en contacto con el fabricante del mismo.**

El rodaje adecuado de un nuevo motor puede aportar considerables diferencias a su rendimiento y duración.

**AVISO**

El cortacésped está concebido para operar y cortar de la forma más eficaz en el ajuste pre establecido del regulador. No cambie estos ajustes ni la velocidad del motor.

Durante el período de rodaje, Jacobsen recomienda lo siguiente:

1. Durante las primeras 50 horas de funcionamiento, se debe dejar que el nuevo motor alcance una temperatura de funcionamiento de al menos 60°C antes de que ruede a toda marcha.
2. Compruebe el nivel de aceite del motor dos veces todos los días durante estas 50 primeras horas. Durante el periodo inicial de rodaje no es extraño que el consumo de aceite sea mayor del habitual.
3. Cambie el aceite del motor y el filtro de aceite después de las 50 horas iniciales.
4. Compruebe y ajuste las correas del ventilador y el alternador.
5. Consulte en la **Sección 6.3** y en el Manual del motor los intervalos de mantenimiento específicos.

Si fuera necesario poner en servicio la bomba de inyección, los inyectores o el sistema de combustible, póngase en contacto con un distribuidor Jacobsen autorizado.

# 4 MANTENIMIENTO

## 4.3 ACEITE DE MOTOR

Compruebe el aceite del motor al inicio de cada jornada de trabajo y antes de arrancar el motor. Si está bajo, retire el tapón del tubo de llenado y añada el aceite necesario.

El primer cambio de aceite debe hacerse después de las primeras 50 horas de funcionamiento; posteriormente cada 100 horas. Consulte el Manual del Motor.

Utilice sólo aceites para motor con clasificación API CD/ CE.

| | |
|---|---|
| Más de 25°C | SAE 30W o SAE 10W30/10W40 |
| 0 a 25°C | SAE 20W o SAE 10W30/10W40 |
| Menos de 0°C | SAE 10W o SAE 10W30/10W40 |

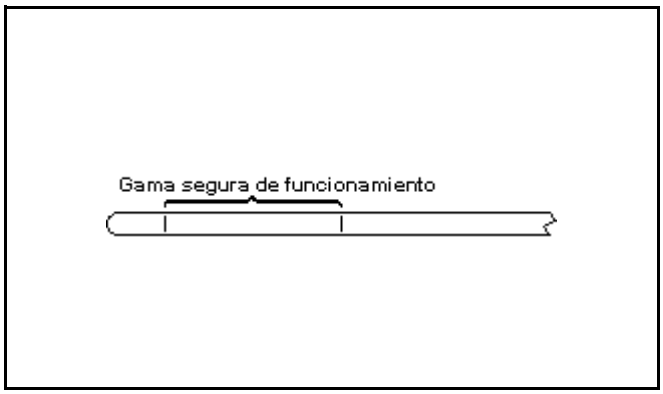



**Figura 4A**

## 4.4 FILTRO DE AIRE

Compruebe el indicador de mantenimiento diariamente. Si en la ventana **(C)** aparece la banda roja reemplace el filtro.

**No extraiga el filtro para inspeccionarlo o limpiarlo.** Si se extrae innecesariamente se incrementa el riesgo de que penetre polvo y demás impurezas en el motor.

Cuando necesite cambiarlo, primeramente limpie la parte exterior del alojamiento del filtro; después extraiga el filtro viejo tan cuidadosamente como pueda y deshágase de él.

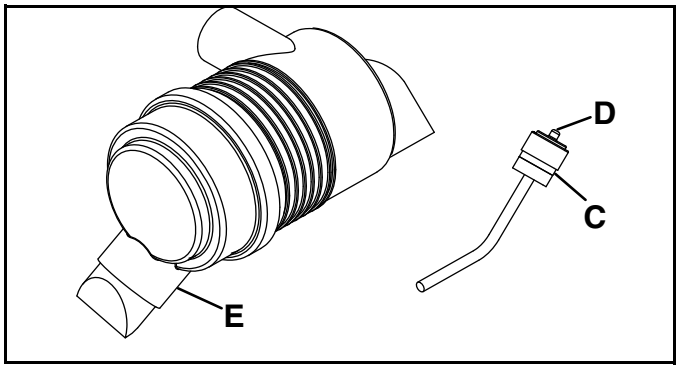



**Figura 4B**

1. Con cuidado, limpie la parte interior del alojamiento del filtro sin dejar que entre polvo en la admisión de aire.
2. Inspeccione el nuevo filtro. No utilice un filtro dañado y nunca uno que no sea adecuado.
3. Monte el nuevo filtro y asegúrese de que se asiente correctamente. Reponga el indicador apretando el botón **(D).**
4. Vuelva a montar el tapón asegurándose de que se asiente completamente alrededor del alojamiento del filtro. El evacuador de polvo **(E)** debe mirar hacia abajo.
5. Compruebe todas las mangueras y conductos de aire. Apriete las mordazas de las mangueras.

## 4.5 COMBUSTIBLE

**Manipule el combustible con cuidado, es sumamente inflamable**. Utilice un contenedor adecuado de modo que la espita quepa en el cuello del tubo de llenado de combustible. Evite la utilización de latas y embudos para transferir el combustible.

**⚠ ADVERTENCIA**

Nunca retire el tapón del depósito de combustible, o añada combustible, con el motor en marcha o caliente.

Absténgase de fumar mientras manipule combustible. Nunca llene o drene el depósito en espacios cerrados.

No derrame combustible. Limpie cualquier vertido inmediatamente.

Nunca manipule o almacene contenedores con combustible cerca de llamas o de ningún dispositivo que pudiera lanzar chispas y hacer prender el combustible o los vapores que éste despide.

Asegúrese de volver a instalar y de apretar el tapón.

- Llene el depósito del combustible hasta una altura de 25 mm del fondo del cuello del tubo de llenado.
- Almacene el combustible siguiendo las ordenanzas locales y estatales y las recomendaciones del proveedor de combustible.
- Nunca llene en exceso o permita que el depósito se vacíe completamente.
- Compruebe los tubos de combustible y las mordazas cada 50 horas. Sustitúyalas al menor signo de daño.
- Utilice combustible diesel nº 2 limpio y nuevo. Tasa mínima de cetano 45. Consulte más datos en el Manual del motor.

## 4.6 SISTEMA DE COMBUSTIBLE

Consulte en la **Sección 6.3** los intervalos específicos de mantenimiento.

Antes de sustituir cualquier filtro, limpie concienzudamente el alojamiento del filtro y la zona que le rodea. No permita que entre suciedad en el sistema de combustible.

Para los motores diesel, purgue el sistema una vez extraídos el filtro y las tuberías de combustible, o el depósito se haya vaciado. Consulte el Manual del Motor.

## 4.7 BATERIA

Esté absolutamente seguro de que el interruptor de encendido esté «Desconectado» y que se haya retirado la llave de contacto antes de poner en servicio la batería.

**⚠ PRECAUCION**

Utilice siempre herramientas aislantes, gafas protectoras y ropa adecuada cuanto trabaje con baterías. Debe leer y obedecer todas las instrucciones del fabricante de la batería.

Apriete los cables a los terminales de la batería y aplique una ligera capa de grasa dieléctrica de silicona en los terminales y en los extremos de los cables para prevenir la corrosión. Mantenga en su sitio los tapones respiraderos y las cubiertas de los terminales.

Compruebe el nivel del electrolito cada 100 horas. Mantenga limpios los extremos de los cables, la batería y los bornes.

Verifique la polaridad de la batería antes de conectar o desconectar los cables.

1. Cuando instale la batería, monte siempre el cable positivo (+) ROJO en primer lugar y el cable negativo (-) NEGRO de tierra en último lugar.
2. Cuando extraiga la batería, retire siempre primero el cable negativo (-) NEGRO de tierra, y segundo el positivo (+) ROJO.
3. Asegúrese de que la batería está perfectamente instalada y asegurada a la bandeja de la batería.

**⚠ ADVERTENCIA**

Las baterías, bornas de las baterías, terminales y accesorios contienen plomo y compuestos de plomo, agentes químicos que según el estado de California provocan cancer y daños reproductivos. **Lávese las manos después de trabajar con ellas.**

# 4 MANTENIMIENTO

## 4.8 ARRANQUE EN PUENTE

Antes de intentar arrancar con puente el motor, compruebe el estado de la batería descargada. **Sección 4.7**.

**⚠ ADVERTENCIA**

Las baterías generan gas hidrógeno explosivo. Para que el riesgo de explosiones sea menor, evite lanzar chispas cerca de la batería. Conecte siempre el cable del puente negativo al bastidor del cortacésped con la batería descargada y lejos de la batería.

**Cuando conecte los cables de puente:**

1. Pare el motor del vehículo con batería en buen estado.
2. Conecte el cable de puente ROJO al terminal positivo (+) de la batería en buen estado y al terminal positivo (+) de la batería “descargada”.
3. Conecte el cable de puente NEGRO del terminal negativo (-) de la batería en buen estado al bastidor del cortacésped con la batería descargada.

Una vez conectados los cables, arranque el motor del vehículo con la batería en buen estado y seguidamente arranque el cortacésped.

## 4.9 RECARGA DE LA BATERIA

**⚠ ADVERTENCIA**

Cargue la batería en una zona bien ventilada. Recuerde que las baterías generan gases explosivos. Para evitar explosiones, mantenga alejada la batería de las llamas.

Para evitar lesiones, aléjese de la batería cuando se conecte el cargador. Una batería dañada podría explotar.

1. Ver **Sección 4.7**. Lea en el Manual de la batería y el cargador instrucciones específicas sobre cómo manipularlos.
2. Siempre que pueda, extraiga la batería del cortacésped antes de cargarla. Si no está sellada, compruebe que los electrolitos cubren las placas en todas las celdas.
3. Asegúrese de que el cargador está «desconectado», seguidamente conéctelo a los terminales de la batería siguiendo las instrucciones del manual del cargador.
4. Siempre desconecte el cargador antes de desconectar el cargador de los terminales de la batería.

## 4.10 MANGUERAS HIDRAULICAS

**⚠ ADVERTENCIA**

Para evitar graves lesiones provocadas por aceite caliente altamente presurizado, nunca compruebe con las manos las fugas de aceite, utilice papel o cartón.

Los escapes de líquido hidráulico presurizado pueden penetrar en la piel. Si es inyectado en la piel deberá ser tratado quirúrgicamente por un médico especializado en este tipo de lesiones o podría engangrenarse la herida.

1. Baje siempre al suelo el grupo de herramientas de corte, desactive todas las transmisiones, ponga el freno de estacionamiento, pare el motor y retire la llave de contacto antes de inspeccionar o desconectar las tuberías y mangueras hidráulicas.
2. Compruebe el estado de los tubos y las mangueras diariamente. Busque mangueras mojadas o manchas de aceite. Sustituya las mangueras y tubos desgastados o dañados antes de poner en funcionamiento la máquina.
3. El tubo o manguera nuevo debe colocarse en el mismo sitio que el retirado, no coloque las mordazas, abrazaderas o uniones en un sitio distinto al original.
4. Inspeccione detenidamente todos los tubos, mangueras y conexiones cada 250 horas.

**IMPORTANTE: El sistema hidráulico puede quedar permanentemente dañado si se contamina el aceite.** Antes de desconectar cualquier componente hidráulico, limpie la zona alrededor de los accesorios y de los extremos de las mangueras para limpiar de impurezas el sistema.

a. Antes de conectar componentes hidráulicos, etiquete o marque la ubicación de cada manguera y limpie la zona alrededor de los accesorios.

b. Cuando desconecte el componente, esté preparado para montar los insertos o tapones en los extremos de las mangueras y en los puertos abiertos. Con ello se evitará la entrada de impurezas en el sistema hidráulico y el derrame de aceite.

c. Asegúrese de que las juntas tóricas estén limpias y de que los accesorios de las mangueras estén correctamente asentados antes de apretarlos.

d. No retuerza la manguera. Las mangueras retorcidas pueden hacer que los acopladores se aflojen conforme flexan las mangueras durante el funcionamiento provocando, así pues, fugas de aceite.

e. Las mangueras retorcidas o ensortijadas pueden restringir el flujo de aceite, con el consiguiente mal funcionamiento del sistema, excesivo calentamiento del aceite y fallo de las mangueras.

## 4.11 ACEITE HIDRAULICO

Consulte en la **Sección 6.3** los intervalos específicos de mantenimiento.

El depósito hidráulico de esta máquina está lleno de líquido Greens Care 68 Biodegradable de Jacobsen.

Drene y reemplace el aceite hidráulico su ha tenido lugar un fallo de componentes grave, si advierte la presencia de agua o espuma en el aceite o si nota un olor rancio (lo que indica un calor excesivo).

Sustituya siempre el filtro hidráulico cuando cambie el aceite.

**Para cambiar el aceite hidráulico**

1. Limpie la zona alrededor del tapón del aceite para evitar que entren impurezas en el sistema y lo contaminen.
   a. La temperatura del aceite debe ser entre 16° y 32°C. No compruebe el nivel de aceite si está caliente.
   b. El nivel de aceite hidráulico nunca debe estar por debajo de la línea inferior de la varilla o estar por encima de la lánea superior.
2. Retire el inserto de drenaje en la parte inferior del depósito principal y afloje o retire el tapón del respiradero en la parte superior del depósito de expansión. Compruebe y limpie el tapón del respiradero y sustitúyalo si es necesario.
3. Después de drenar el aceite, instale el inserto de drenaje y llene el depósito con líquido Greens Care 68 Biodegradable de Jacobsen.
4. Purgue el aire del sistema.
   a. Active todas las funciones del cortacésped durante aproximadamente 5 minutos para purgar el aire del sistema y estabilizar el aceite.
   b. Una vez estabilizado el aceite y purgado el aire, llene el depósito de expansión hasta la marca de lleno.

## 4.12 FILTROS DEL ACEITE HIDRAULICO

El sistema hidráulico está protegido por dos filtros de 10 micrones.

**Para cambiarlo:**

1. Retire el filtro antiguo.
2. Llene el nuevo filtro con aceite y, seguidamente, instálelo. Apriételo solamente con la mano.
3. Ponga en funcionamiento el motor a baja potencia con el sistema hidráulico en punto muerto durante cinco minutos.
4. Compruebe el nivel del aceite hidráulico del depósito y llénelo hasta la marcha de la varilla medidora.

## 4.13 SISTEMA ELECTRICO

**⚠ PRECAUCION**

Desconectar siempre el interruptor de ignición y retirar el cable negativo de la batería (NEGRO) antes de revisar o trabajar en el sistema eléctrico.

A continuación se enumeran las precauciones que deben tomarse para reducir posibles problemas eléctricos:

1. Asegúrese de que todos los terminales y conexiones están limpias y correctamente fijadas.
2. Compruebe regularmente el sistema de seguridad del operario y los disyuntores de circuito. Si el sistema no funciona correctamente y no se puede corregir el problema, póngase en contacto con un distribuidor Jacobsen autorizado.
3. Aleje el mazo de cables y todos los cables individuales de las piezas móviles para evitar daños.
4. Asegúrese de que el mazo del interruptor del asiento está conectado al mazo de cables principal.
5. Compruebe la batería y su circuito de carga.
6. No lave o rocíe a presión alrededor de las conexiones y componentes eléctricos.

# 4 MANTENIMIENTO

## 4.14 ESCAPE Y SILENCIADOR

**⚠ ADVERTENCIA**

Los humos de escape contienen monóxido de carbono tóxico y pueden ser fatales sin son inhalados.

**NUNCA** arranque un motor sin la adecuada ventilación.

Para protegerse del monóxido de carbono, inspeccione todo el sistema de escape regularmente y sustituya siempre el silenciador si está dañado.

Si advierte un cambio de color y de sonido del escape, pare el motor inmediatamente. Averigüe cuál es el problema y mande el equipo a reparar.

Apriete los componentes del colector del escape regularmente. Apriete o sustituya las abrazaderas del escape.

## 4.15 NEUMATICOS

1. Mantenga los neumáticos correctamente inflados para prolongar su vida útil. Compruebe la presión de inflado cuando los neumáticos estén fríos. Inspeccione el desgaste de la pisada.
2. Compruebe la presión con una galga para neumáticos de baja presión y precisa.
3. Mantenga las siguientes presiones:

   Delanteros -69 – 83 kPa
   Traseros -55 – 69 kPa

**⚠ PRECAUCION**

A menos que haya recibido la formación adecuada y posea las herramientas y la experiencia idónea, NO intente montar un neumático en la llanta. Un montaje incorrecto puede dar lugar a una explosión y provocar graves lesiones.

## 4.16 MONTAJE DE LAS RUEDAS

**⚠ ADVERTENCIA**

Asegúrese de que el cortacésped esté aparcado sobre una base sólida y llana. Nunca trabaje en un cortacésped que sólo esté apoyado sobre un gato. Utilice siempre soportes para gatos.

Si sólo está elevada la parte delantera o trasera del cortacésped, coloque bloques delante y detrás de las ruedas que estén apoyadas en el suelo.

1. Limpie la suciedad, la grasa y el aceite de la rosca de los pernos sin cabeza. No lubrique las roscas.
2. Coloque la rueda en el cubo y preste atención para que la superficie de la rueda esté totalmente en contacto con el cubo o el tambor del freno.
3. Apriete con los dedos todos los componentes y aplique par de torsión en orden cruzado; apriete siempre las tuercas en la posición superior.
4. Compruebe y vuelva a apretar diariamente hasta que el par de torsión se mantenga entre 115 -128 Nm.

## 4.17 CUIDADOS Y LIMPIEZA

Lave el cortacésped y las herramientas después de cada utilización. Mantenga limpio el equipo.

**AVISO**

No lave nada del equipo si está caliente. No utilice rociadores de alta presión. Use agua fría y limpiadores para automóviles.

1. Limpie con aire comprimido el motor y las aletas del radiador. Puede adquirir nuestra pistola de aire comprimido especial a través de un distribuidor Jacobsen.
2. Use sólo agua fría para limpiar el equipo.

**AVISO**

Se ha observado que el uso de agua salada o agua de efluente favorece el óxido y corrosión de las partes metálicas, causando un deterioro prematuro o avería. Los desperfectos de esta naturaleza no están cubiertos por la garantía de fábrica.

3. No rocíe agua directamente al panel de instrumentos, el interruptor de encendido, el controlador o cualquier otro componente eléctrico, ni tampoco sobre los alojamientos de los cojinetes y juntas.
4. Limpie todas las piezas de plástico o goma con una solución jabonosa suave o con los limpiadores para goma y vinilo disponibles en el mercado.
5. Para mantener el lustre original de la fibra de vidrio, encere periódicamente con cera One-Step.

Repare las superficies metálicas dañadas y utilice pintura para retoques Jacobsen. Aplique una capa de cera al equipo para proteger la pintura.

**⚠ PRECAUCION**

Limpie la hierba y los restos de las unidades de corte, las transmisiones, los silenciadores y el motor para evitar posibles incendios.

**⚠ ADVERTENCIA**

**NUNCA** limpie con las manos las unidades de corte. Utilice un cepillo para retirar los restos de hierba de las cuchillas. Las cuchillas pueden estar extremadamente afiladas y causar graves lesiones.

## 4.18 RADIADOR

**⚠ ADVERTENCIA**

Para evitar lesiones graves a causa de estallidos de vapor o refrigerante caliente, nunca intente retirar el tapón del radiador con el motor funcionando. Pare el motor y espere a que se enfríe. Incluso entonces, tenga mucho cuidado cuando retire el tapón.

**⚠ PRECAUCION**

No vierta agua fría en el radiador si está caliente. No arranque el motor sin una adecuada mezcla de refrigerante. Instale el tapón y apriételo.

Compruebe el nivel del refrigerante diariamente. El radiador debería estar lleno y la botella de recuperación hasta la marca de **frío.**

Drene y rellene el radiador una vez al año. Retire el tapón del radiador, abra el drenaje del bloque motor y el del radiador. Vacíe y limpie la botella de recuperación.

Mezcle agua limpia con anticongelante con base de etilenglicol para las temperaturas ambientales más frías. Lea y siga las instrucciones indicadas en el contenedor del anticongelante y en el manual del motor.

Mantenga limpios los pasos del aire del radiador. Utilice aire comprimido (210 kPa máximo) para limpiar las aletas.

Compruebe y apriete la correa del ventilador. Reemplace las mordazas y las mangueras cada dos años.

Si tiene que añadir refrigerante más de una vez al mes, o más de un cuarto cada vez, deje que un distribuidor Jacobsen autorizado compruebe el sistema de refrigeración.

## 4.19 RETROPULIDO

**⚠ ADVERTENCIA**

Al objeto de evitar lesiones, no acerque las manos, los pies y la ropa a los carretes giratorios.

Cuando el interruptor de retropulido está en la posición RETROPULIDO, los carretes girarán sin que el operario esté en el asiento.

El monóxido de carbono de los gases de escape puede ser fatal, nunca arranque un motor sin la adecuada ventilación.

Compruebe el carrete y la cuchilla fija para determinar si el borde de corte necesita ser bruñido o simplemente retropulido.

Si el desgaste o el daño es tal que los bordes de corte no pueden ser corregidos mediante retropulido, entonces deberán ser bruñidos.

**Para retropulir**

1. Ajustar el carrete a la cuchilla fija como se describe en las **Secciones 3.13 y 3.14**.
2. Obtener y engranar la llave mecánica (retropulido).
   a. Asegurarse completamente que los pies y ropa están muy alejados del carrete.
   b. Asegurarse que el freno de estacionamiento está puesto, el interruptor del carrete desactivado, el interruptor de retropulido desconectado y el pedal de tracción en punto muerto.
   c. Arrancar el motor, girar la llave mecánica a retropulido entonces engranar el interruptor del carrete. Si gira cualquiera de los carretes, ajustar la tuerca **(A)** para parar el carrete.
3. Girar la tuerca **(A)** en el carrete para que se amole de forma que el carrete gira en reversa. Ajuste la velocidad del carrete a 100 - 150 rpm.
   a. Aplique el componente pulidor con un cepillo de mango largo primero a los puntos altos y luego en toda la longitud del carrete.
   b. Continúe puliendo y al mismo tiempo ajuste ligeramente el carrete hasta que haya una distancia uniforme en toda la longitud de los bordes de corte.
   c. Cuando las cuchillas se han afilado por igual, girar la tuerca de ajuste **(A)** a punto muerto. Con cuidado retirar completamente todo el compuesto de retropulido de los carretes y de la cuchilla fija antes de operar el carrete en dirección hacia adelante.
   d. Desengranar el interruptor del carrete y girar el interruptor de retropulido a desconectado.
4. Ajustar de nuevo los motores del carrete en giro hacia adelante. Si varía la velocidad del carrete, revisar la tuerca **(A)** para asegurar que está completamente puesto en el giro hacia adelante.
5. Retirar y guardar la llave de retropulido.

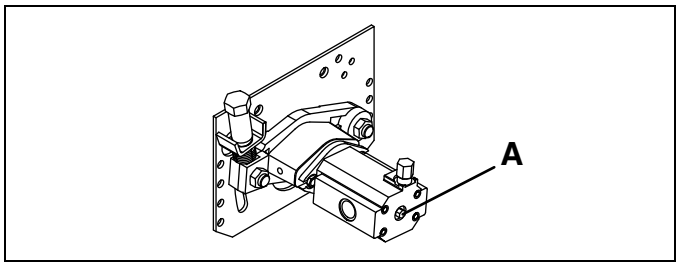



**Figura 4C**

## 4.20 ALMACENAMIENTO

**Generalidades**

1. Lave el cortacésped a fondo y lubríquelo. Repare y pinte el metal dañado o desnudo.
2. Inspeccione el cortacésped, apriete todos los elementos, sustituya los componentes desgastados o dañados.
3. Drene y rellene el radiador.
4. Limpie a fondo los neumáticos y almacene el cortacésped de manera que la carga no esté sobre los neumáticos. Si el cortacésped no está sobre soportes para gatos, compruebe los neumáticos a intervalos regulares e ínflelos según sea necesario.
5. Mantenga limpia y seca la máquina y todos sus accesorios; proteja el equipo de las inclemencias del tiempo cuando lo almacene. Nunca guarde equipo cerca de llamas o chispas que podrían prender el combustible o los gases que éste despide.

**Batería**

1. Retire, limpie y almacene la batería en posición vertical en un lugar fresco y seco.
2. Compruebe y recargue la batería cada 60 ó 90 días mientras esté almacenada.
3. Almacene las baterías en un lugar seco y fresco. Para reducir la tasa de autodescarga, la temperatura ambiente no debe ser mayor que 27°C o menor que -7°C al objeto de evitar que se congele el electrolito.

**Motor (generalidades)**

1. Con el motor caliente, retire el inserto de drenaje, drene el aceite del cárter y cambie el filtro de aceite. Deje que se enfríe el motor antes de arrancar.
2. Limpie el exterior del motor. Pinte el metal desnudo o aplique una ligera capa de aceite anticorrosión.
3. Añada acondicionador de aceite o biocida para evitar que se gele o se desarrollen bacterias en el combustible. Consulte a su proveedor de combustible.

**Unidades de corte**

1. Lave a fondo las unidades de corte y repare y pinte cualquier pieza metálica dañada o desnuda.
2. Lubrique todos los accesorios y puntos de fricción.
3. Retropula los carretes y retire el carrete lejos de la cuchilla fija. Aplique una ligera capa de aceite anticorrosión en los bordes afilados del carrete y la cuchilla fija.

**⚠ PRECAUCION**

Para evitar que se produzcan lesiones y daños en los bordes de corte, manipule el carrete con sumo cuidado.

**Tras el almacenamiento**

1. Compruebe y reinstale la batería.
2. Compruebe o instale un nuevo filtro de combustible y un limpiador de aire.
3. Compruebe el nivel del refrigerante del radiador.
4. Compruebe el nivel de aceite en el cárter del motor y en el sistema hidráulico.
5. Llene el depósito de combustible con combustible nuevo. Purgue el sistema de combustible.
6. Asegúrese de que los neumáticos están correctamente inflados.
7. Retire todo el aceite de los carretes y de la cuchilla fija. Ajuste la cuchilla fija y la altura de corte.
8. Arranque y deje funcionar el motor a medio gas. Deje pasar tiempo suficiente para que el motor se caliente y lubrique adecuadamente.

**⚠ ADVERTENCIA**

Nunca arranque un motor sin la adecuada ventilación; la inhalación de gases de escape puede ser fatal.

# 5 RESOLUCION DE PROBLEMAS

## 5.1 GENERALIDADES

En el siguiente cuadro se enumeran los problemas más comunes que pueden ocurrir durante el arranque y funcionamiento. Para más información detallada acerca de los sistemas hidráulico y eléctrico, póngase en contacto con el distribuidor Jacobsen de su zona.

| Síntomas | Posibles causas | Acción |
|---|---|---|
| El motor no arranca. | 1. Freno de estacionamiento quitado, pedal de tracción no está en punto muerto o interruptor de carrete/3WD activado. | 1. Comprobar el sistema de interbloqueo de seguridad y el procedimiento de encendido |
| | 2. Batería con poca carga o defectuosa. | 2. Revisar el estado de la batería y de sus conexiones. |
| | 3. Depósito de gasolina vacío o sucio. | 3. Llenar con combustible nuevo. Cambiar el filtro de combustible. Purgar los manguitos de combustible. |
| | 4. Fusible fundido. | 4. Cambiar el fusible. |
| Al motor le cuesta arrancar o funciona mal. | 1. Nivel de combustible bajo, combustible o filtro sucio. | 1. Llenar con combustible nuevo. Cambiar el filtro de combustible. Purgar los manguitos de combustible. |
| | 2. Limpiador de aire sucio. | 2. Revisar y cambiar el filtro de aire. |
| | 3. Inyectores, bomba de combustible. | 3. Consulte el manual del motor. |
| | 4. Problema con el motor. | 4. Consultar el manual del motor. |
| El motor se para. | 1. Depósito de combustible vacío. | 1. Llenar el depósito con combustible nuevo. Purgar las tuberías de combustible. |
| | 2. El dispositivo no está ajustado antes de levantarse del asiento del operario. | 2. Poner el freno de estacionamiento, poner la palanca de tracción en “N” (Punto muerto) y el control del carrete en OFF (Desconectado). |
| Sobrecalentamiento del motor. | 1. Nivel bajo de refrigerante. | 1. Revisar y añadir refrigerante. |
| | 2. Entrada de aire atascada. | 2. Limpiar la entrada de aire del refrigerante. |
| | 3. Correa de la bomba de agua rota o suelta. | 3. Apretar o cambiar la correa. |
| | 4. Engine overload. | 4. Reducir la velocidad hacia delante. |
| Batería sin carga. | 1. Terminales de la batería sueltos o corroídos. | 1. Revisar y limpiar los terminales. |
| | 2. Electrolito bajo. | 2. Rellenar al nivel correcto. |
| | 3. Correa del alternador suelta o rota. | 3. Apretar o cambiar la correa. |
| | 4. Sistema de carga defectuoso. | 4. Consultar el manual del motor. |
| Los carretes cortan de modo desigual. | 1. La cuchilla fija al carrete no está ajustada correctamente. | 1. Revisar el ajuste de la cuchilla fija. |
| | 2. Velocidad del motor demasiado baja. | 2. Revisar la velocidad del motor. Hacer funcionar el motor con el acelerador a tope. |
| | 3. Nivel de aceite hidráulico bajo. | 3. Comprobar nivel del depósito y llenar si es necesario. |
| El cortacésped no reacciona al pedal de tracción. | 1. Freno de estacionamiento puesto. | 1. Soltar el freno de estacionamiento. |
| | 2. Válvula de remolque abierta. | 2. Cerrar la válvula de remolque. |
| | 3. Nivel de aceite hidráulico bajo. | 3. Comprobar nivel del depósito y llenar si es necesario. |
| El implemento no sube ni baja. | 1. Nivel de aceite hidráulico bajo. | 1. Comprobar nivel del depósito y llenar si es necesario. |
| Los sensores/indicador no funcionan. | 1. Disyuntor de circuito. | 1. Restablecer el diyuntor de circuito y comprobar la bombilla. |
| | 2. Cables sueltos. | 2. Comprobar las conexiones eléctricas. |

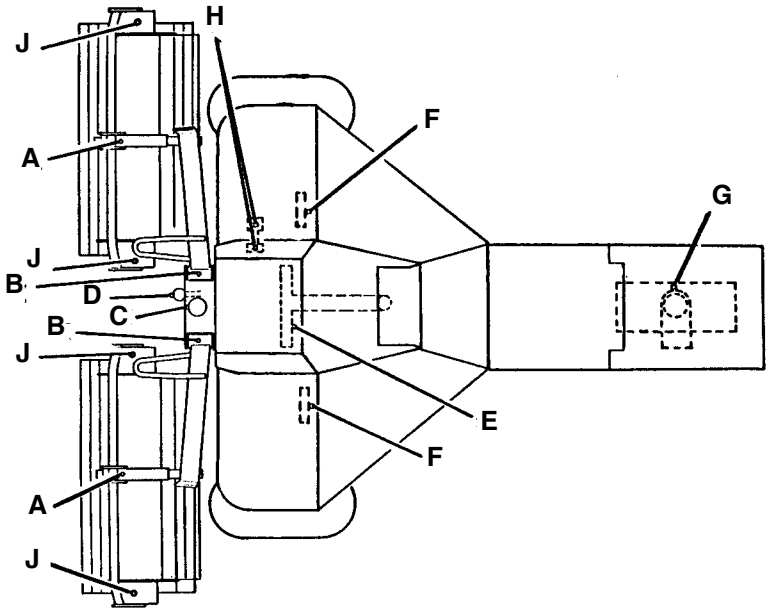
## 6.1 GENERALIDADES

**⚠ ADVERTENCIA**

Antes de limpiar, ajustar o reparar el equipo, desactive todas las transmisiones, baje al suelo el grupo de herramientas de corte, ponga el freno de estacionamiento, pare el motor y retire la llave de contacto.

1. Limpie siempre el accesorio engrasador antes y después de lubricar.
2. Utilice grasa que cumpla o supere las especificaciones NLGI Grado 2 LB. Aplique grasa con una pistola manual y llene despacio hasta que la grasa comience a subir. No utilice pistolas de aire comprimido.
3. Periódicamente, aplique una pequeña cantidad de grasa con base de litio a las ruedas móviles del asiento.
4. Para un correcto funcionamiento de todas las palancas, los puntos de pivote y demás puntos de fricción no mostrados en el cuadro de lubricación, aplique varias gotas de aceite SAE 30 cada 40 horas o según sea necesario.
5. Engrase las piezas (**A-F)** cada 50 horas y los piezas **(G-K)** cada 100 horas.

## 6.2 CUADRO DE LUBRICACION




A. Pivote del cortacésped (3 piezas)
B. Brazos de elevación delanteros (2 piezas)
C. Cubo del manubrio
D. Cilindro hidráulico
E. Brazo de elevación central
F. Pivote del pedal de control (2 piezas)
G. Horquilla de dirección
H. Cojinetes del eje de dirección (2 piezas)
J. Cojinetes del carrete (6 piezas)
K. Rodillos (como se requiera)

# 6 CUADROS DE MANTENIMIENTO Y DE LUBRICACION

## 6.3 CUADROS DE MANTENIMIENTO

**Intervalos recomendados de inspección y lubricación**

| | Cada 8-10 horas | Cada 50 horas | Cada 100 horas | Cada 250 horas | Cada 400 horas | Cada 500 horas | Cada 1000 horas | Anual. | Ver Sección | Tipo de lubricante |
|---|---|---|---|---|---|---|---|---|---|---|
| Filtro de aire | I | | AR | | | | | R | 4.4 | |
| Carga de la batería | | | I | | | | | | 4.7 | |
| Correas | I-A* | | I-A | | | R | | | 3.2, 3.3 | |
| Freno | | I-A* | | A | | | | | 3.10 | |
| Sistema de refrigeración | I-C-A | | | | | | | R | 4.18 | IV |
| Sistema eléctrico | | I* | | I | | | | | 4.13 | |
| Aceite del motor | I | R* | R | | | | | | 4.3 | II |
| Filtro de aceite del motor | | R* | R | | | | | | | |
| Sistema de combustible | | I | | | | | | | 4.6 | |
| Filtro de combustible | | | | | | R | | | 4.6 | |
| Accesorios de engrase - Todos | L | L | L | | | L | | | 6.2 | I |
| Mangueras y tubos hidráulicos | I*** | | | I | | | | | 4.10 | |
| Aceite hidráulico | I-A | | | R** | | | | R** | 4.11 | III |
| Filtro de aceite hidráulico | I | R* | | R | | | | | 4.12 | |
| Silenciador y escape | I | | | I | | | | | 4.14 | |
| Pantallas del radiador | I-C/AR | | | | | | | | 4.18 | |
| Neumáticos | | I-A | | | | | | | 4.15 | |

***A - Añadir o Ajustar C - Limpiar I - Inspeccionar L - Lubricar R - Reemplazar AR - Según Necesidad***

* Indica el servicio inicial para máquinas nuevas.

** Cada 250 horas o cada año, lo que ocurra antes.

*** Revisar los manguitos y tuberías visibles en cuanto a fugas o marcas de aceite.

I - Pistola Manual con grasa NLGI de Grado 2 (Servicio Clase LB).

II - Aceite Motor – Ver **Sección 4.3**.

III - Usar líquido GreensCare 68 Jacobsen: Capacidad: 19 Litros. Nº pedido Pieza 5003103, Cubo de 19 litros o Nº Pieza 5003102, barril de 208 litros.

IV - Capacidad: 2,8 l 50/50 mezcla de agua y glicol de etileno.

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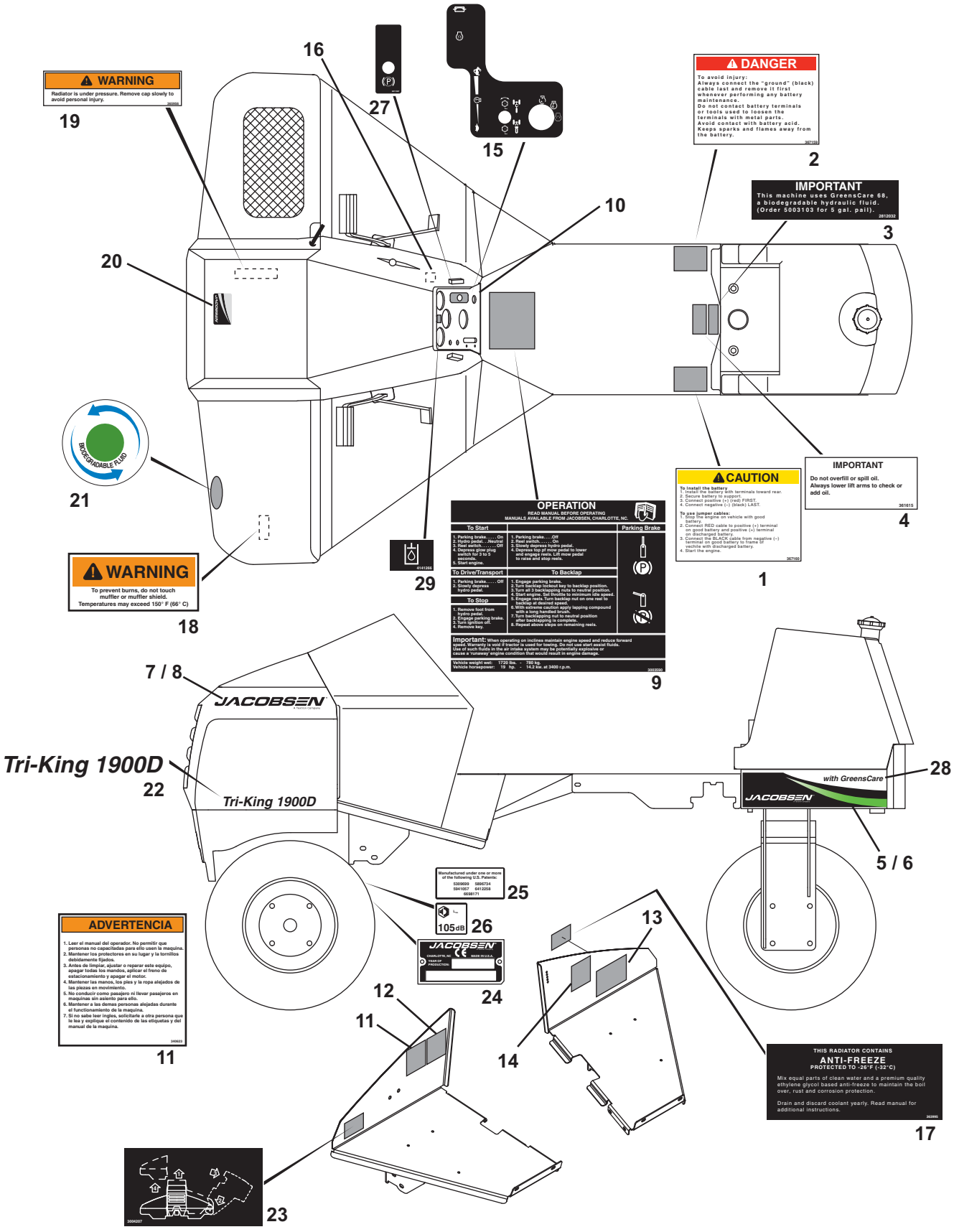
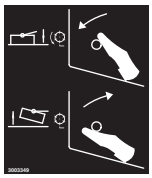
## 1.1 Decals

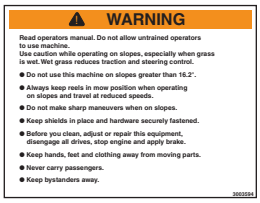
Serial No. All


WARNING
Radiator is under pressure. Remove cap slowly to avoid personal injury.
19
16
27
15
DANGER
To avoid injury:
Always connect the "ground" (black) cable last and remove it first whenever performing any battery maintenance.
Do not contact battery terminals or tools used to loosen the terminals with metal parts.
Avoid contact with battery acid.
Keeps sparks and flames away from the battery.
2
IMPORTANT
This machine uses GreensCare 68, a biodegradable hydraulic fluid. (Order 5003103 for 5 gal. pail).
3
10
20
BIODEGRADABLE FLUID
21
WARNING
To prevent burns, do not touch muffler or muffler shield.
Temperatures may exceed 150° F (66° C)
18
29
OPERATION
READ MANUAL BEFORE OPERATING
MANUALS AVAILABLE FROM JACOBSEN, CHARLOTTE, NC.
To Start
Parking Brake
To Drive/Transport
To Backlap
To Stop
Important: When operating on inclines maintain engine speed and reduce forward speed. Warranty is void if tractor is used for towing. Do not use start assist fluids. Use of such fluids in the air intake system may be potentially explosive or cause a 'runaway' engine condition that would result in engine damage.
Vehicle weight wet: 1720 lbs. - 780 kg.
Vehicle horsepower: 19 hp. - 14.2 kw. at 3400 r.p.m.
9
CAUTION
To install the battery:
1. Install battery with terminals toward rear.
2. Secure battery to support.
3. Connect positive (+) (red) FIRST.
4. Connect negative (-) (black) LAST.
To use jumper cables:
1. Stop the engine on vehicle with good battery.
2. Connect RED cable to positive (+) terminal on good battery and positive (+) terminal on discharged battery.
3. Connect the BLACK cable from negative (-) terminal on good battery to frame of vechile with discharged battery.
4. Start the engine.
1
IMPORTANT
Do not overfill or spill oil.
Always lower lift arms to check or add oil.
4
7 / 8
JACOBSEN
Tri-King 1900D
22
Tri-King 1900D
with GreensCare
28
5 / 6
Manufactured under one or more of the following U.S. Patents:
5309699 5896724
5941057 6412258
6698171
25
105dB
26
JACOBSEN
CHARLOTTE, NC
YEAR OF PROTECTION
MADE IN U.S.A.
24
ADVERTENCIA
1. Leer el manual del operador. No permitir que personas no capacitadas para ello usen la maquina.
2. Mantener los protectores en su lugar y la tornillos debidamente fijados.
3. Antes de limpiar, ajustar o reparar este equipo, apagar todas los mandos, aplicar el freno de estacionamiento y apagar el motor.
4. Mantener las manos, los pies y la ropa alejados de las piezas en movimiento.
5. No conducir como pasajero ni llevar pasajeros en maquinas sin asiento para ello.
6. Mantener a las demas personas alejadas durante el funcionamiento de la maquina.
7. Si no sabe leer ingles, solicitarle a otra persona que le lea y explique el contenido de las etiquetas y del manual de la maquina.
11
12
11
13
14
THIS RADIATOR CONTAINS
ANTI-FREEZE
PROTECTED TO -26°F (-32°C)
Mix equal parts of clean water and a premium quality ethylene glycol based anti-freeze to maintain the boil over, rust and corrosion protection.
Drain and discard coolant yearly. Read manual for additional instructions.
17
23

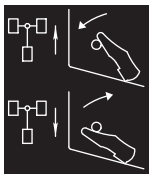
10



12


WARNING
Read operators manual. Do not allow untrained operators to use machine.
Use caution while operating on slopes, especially when grass is wet. Wet grass reduces traction and steering control.
● Do not use this machine on slopes greater than 16.2°.
● Always keep reels in mow position when operating on slopes and travel at reduced speeds.
● Do not make sharp maneuvers when on slopes.
● Keep shields in place and hardware securely fastened.
● Before you clean, adjust or repair this equipment, disengage all drives, stop engine and apply brake.
● Keep hands, feet and clothing away from moving parts.
● Never carry passengers.
● Keep bystanders away.

13



14

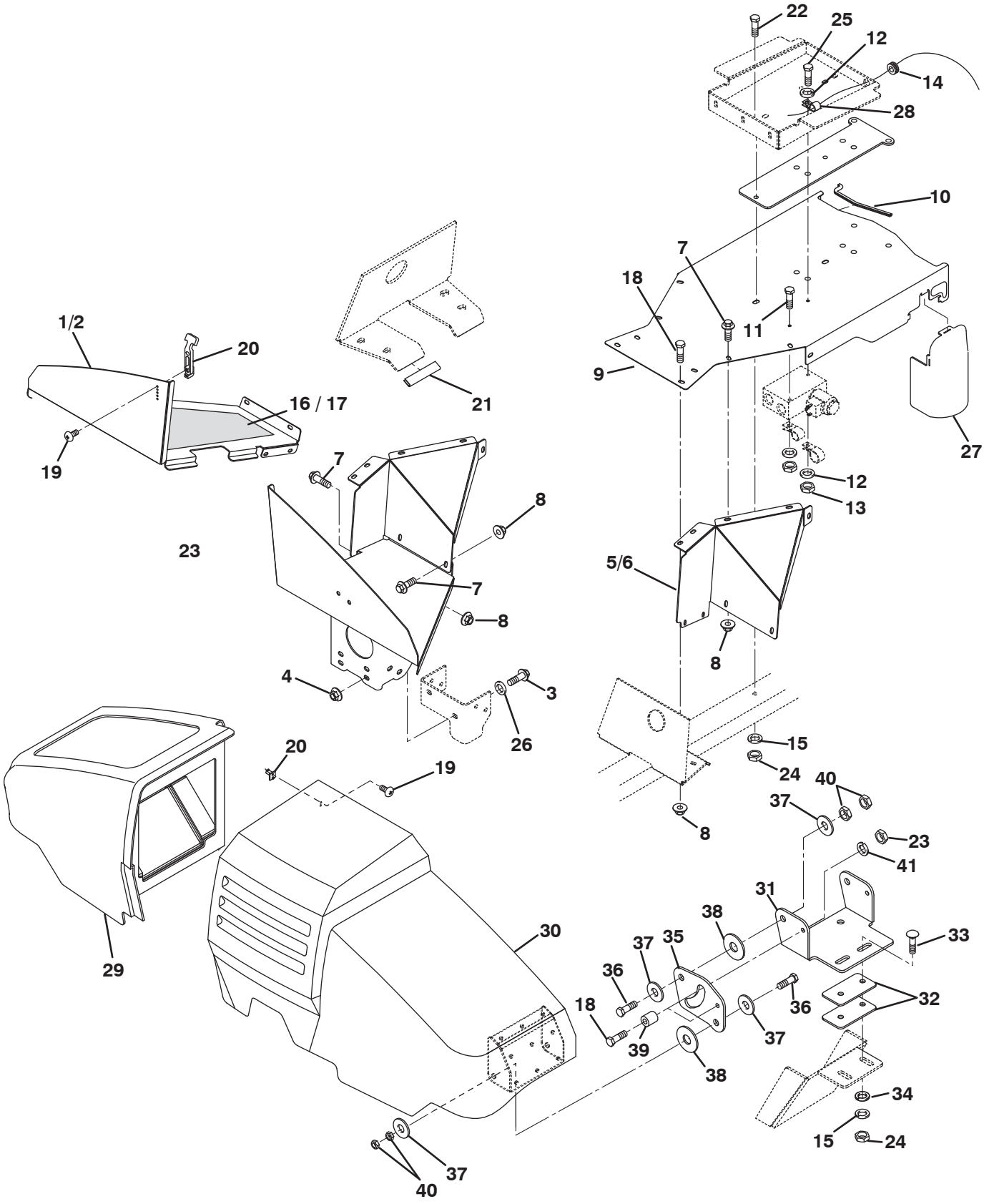
16

| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 367160 | 1 | Decal, Battery Caution | |
| 2 | 367159 | 1 | Decal, Battery Danger | |
| 3 | 2812032 | 1 | Decal, Hydraulic Fluids | |
| 4 | 361615 | 1 | Decal, Oil Overfill | |
| 5 | 4124358 | 1 | Decal, Right Side Stripe | |
| 6 | 4124357 | 1 | Decal, Left Side Stripe | |
| 7 | 4124790 | 1 | Decal, Jacobsen 12” | |
| 8 | 4125789 | 1 | Decal, Jacobsen 10” | |
| 9 | 3003590 | 1 | Decal, Operating Instructions | |
| 10 | 3002053 | 1 | Decal, Backlap Switch | |
| 11 | 340623 | 1 | Decal, Spanish Caution | |
| 12 | 3003349 | 1 | Decal, Lift/Lower | |
| 13 | 3003594 | 1 | Decal, Caution | |
| 14 | 3003348 | 1 | Decal, Forward/Reverse | |
| 15 | 3003350 | 1 | Decal, Dash Overlay | |
| 16 | 3003606 | 1 | Decal, Fuse Panel | |
| 17 | 363995 | 1 | Decal, Antifreeze | |
| 18 | 339237 | 1 | Decal, Heat Warning | Located on Hood Pivot |
| 19 | 365956 | 1 | Decal, Radiator Warning | Located on Radiator |
| 20 | 4124759 | 1 | Decal, Jacobsen Emblem | |
| 21 | 4111408 | 1 | Decal, Biodegradable Fluids | |
| 22 | 4124691 | 2 | Decal, Tri-King 1900D | |
| 23 | 3004207 | 1 | Decal, Opening Hood | |
| 24 | REF | 1 | Serial Plate | On Left Front Wheel Motor Mount |
| 25 | 4125772 | 1 | Decal, Patent | |
| 26 | 4117468 | 1 | Decal, Noise 105 dB | |
| 27 | 2811597 | 1 | Decal, Parking Brake Light | |
| 28 | 4124721 | 1 | Decal, GreensCare | |
| 29 | 4141266 | 1 | Decal, Oil | |

> Change from previous revision

## 2.1 Hood and Cowlings

Serial No. All

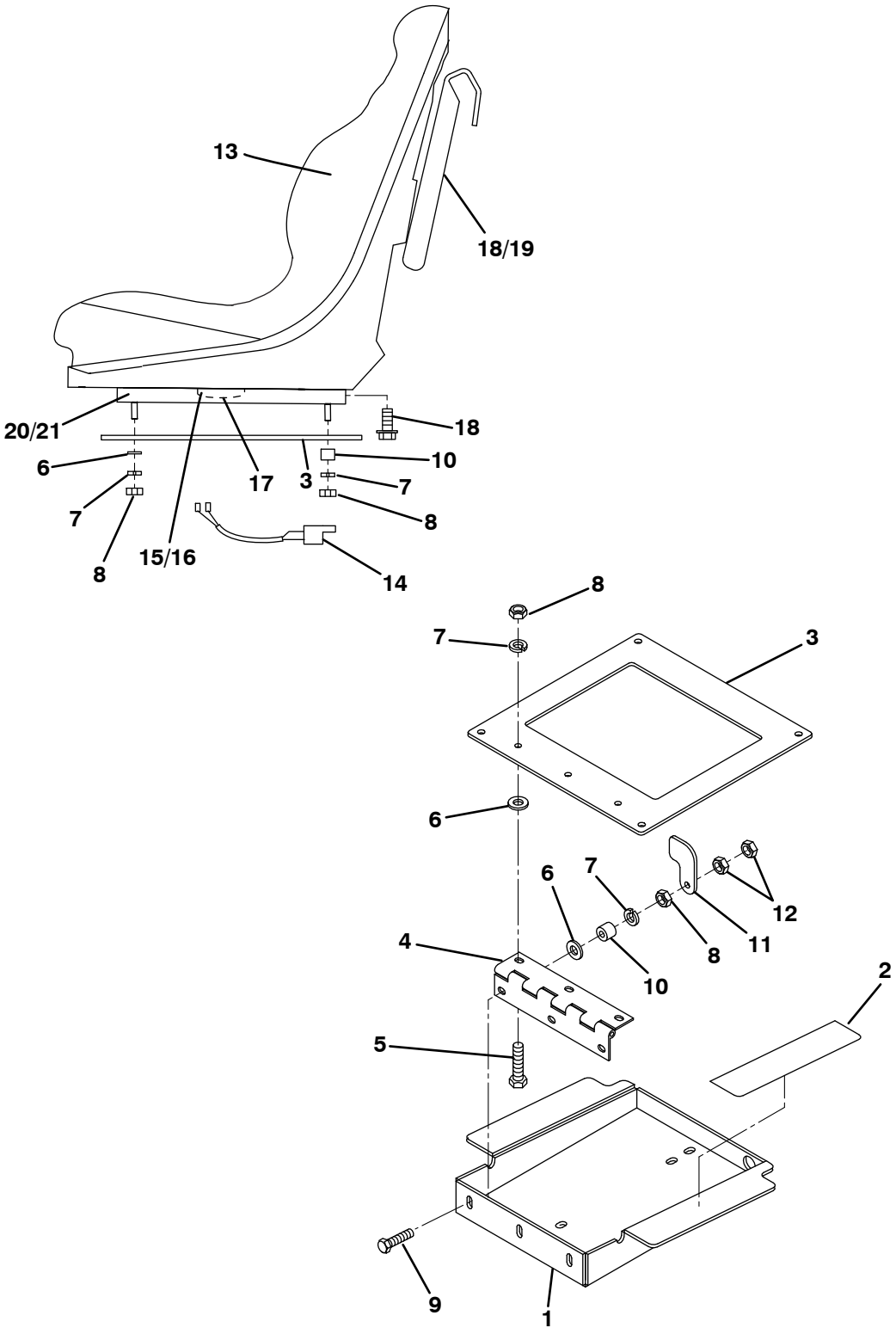


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 2810411 | 1 | Left Foot Rest | |
| 2 | 2810413 | 1 | Right Foot Rest | |
| 3 | 400260 | 12 | Screw, 3/8-16 x 7/8” Hex Head | |
| 4 | 445796 | 12 | Nut, 3/8-16 Spiralock Flange | |
| 5 | 3002803 | 1 | Left Hand Transition | |
| 6 | 3002804 | 1 | Right Hand Transition | |
| 7 | 403770 | 14 | Screw, 5/16-18 x 3/4” Flanged Head | |
| 8 | 445795 | 18 | Nut, 5/16-18 Spiralock Flange | |
| 9 | 5001665 | 1 | Seat Pan | |
| 10 | 3003749 | 2 | Edging | |
| 11 | 400124 | 1 | Screw, 1/4-20 x 2-1/2” Hex Head | |
| 12 | 452004 | 4 | Flat Washer, 1/4 | |
| 13 | 444708 | 2 | Locknut, 1/4-20 Center | |
| 14 | 303567 | 1 | Grommet | |
| 15 | 446142 | 4 | Lockwasher, 3/8 Hvy | |
| 16 | 2810061 | 1 | Right Footrest Pad | |
| 17 | 2810062 | 1 | Left Footrest Pad | |
| 18 | 400188 | 7 | Screw, 5/16-18 x 1” Hex Head | |
| 19 | 403910 | 3 | Screw, #10-24 x 1/2” Truss Head | |
| 20 | 1001758 | 1 | Rubber Latch | |
| 21 | 3003748 | 2 | Edging | |
| 22 | 440134 | 2 | Carriage Bolt, 3/8-16 x 3” | |
| 23 | 443106 | 3 | Nut, 5/16-18 Hex | |
| 24 | 443110 | 10 | Nut, 3/8-16 Hex | |
| 25 | 400126 | 1 | Screw, 1/4-20 Hex Head | |
| 26 | 452008 | 12 | Flat Washer, 3/8 | |
| 27 | 3003968 | 1 | Filter Cover | |
| 28 | 360343 | 1 | Hose Clamp | |
| 29 | 2810029 | 1 | Right Hood | |
| 30 | 2810018 | 1 | Left Hood | |
| 31 | 2810064 | 1 | Pivot Bracket | |
| 32 | 2811139 | 2 | Shim | |
| 33 | 441676 | 2 | Carriage Bolt, 3/8-16 x 1-1/4” | |
| 34 | 453011 | 2 | Flat Washer, 3/8 | |
| 35 | 2811495 | 2 | Pivot Link | |
| 36 | 400408 | 4 | Screw, 1/2-13 x 1-1/2” Hex Head | |
| 37 | 452012 | 8 | Flat Washer, 1/2 | |
| 38 | 3000576 | 4 | Washer | |
| 39 | 3004410 | 3 | Spacer | |
| 40 | 443818 | 8 | Nut, 1/2-13 Hex Jam | |
| 41 | 446136 | 3 | Lockwasher, 5/16 Hvy | |
| 42 | REF | 1 | ROPS Drill Template | See 11.1 |

> Change from previous revision

## 3.1 Seat and Base

Serial No. 67043-1601~4743

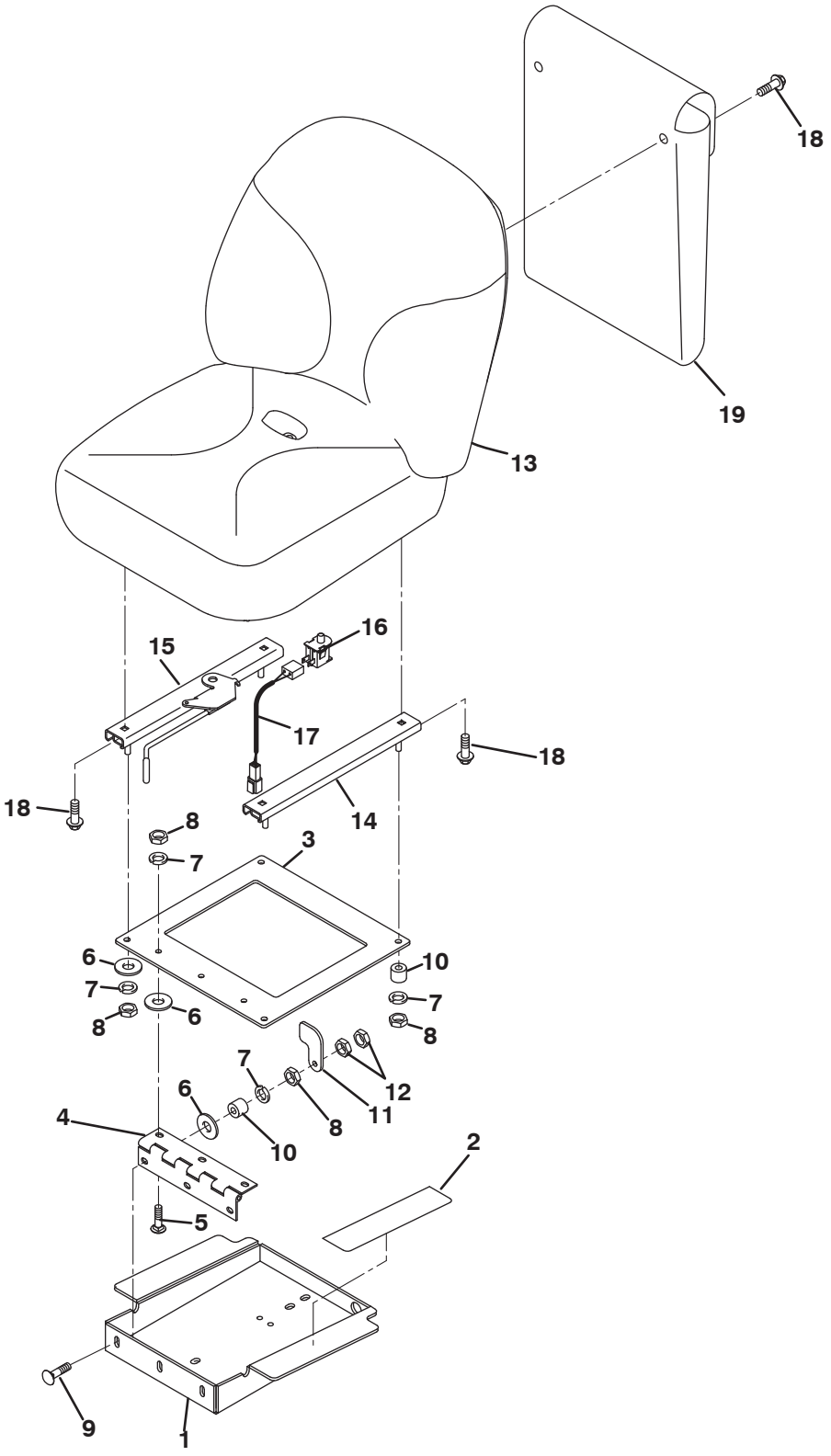


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 3003301 | 1 | Seat Base | |
| 2 | 558012 | 2 | Pad | |
| 3 | 3003368 | 1 | Plate | |
| 4 | 3003299 | 1 | Hinge | |
| 5 | 440078 | 5 | Carriage Bolt, 5/16-18 x 3/4” | |
| 6 | 452006 | 10 | Flat Washer, 5/16 | |
| 7 | 446136 | 10 | Lockwasher, 5/16 Hvy | |
| 8 | 443106 | 10 | Nut, 5/16 Hex | |
| 9 | 440088 | 1 | Carriage Bolt, 5/16-18 x 1-3/4” | |
| 10 | 3004410 | 2 | Spacer | |
| 11 | 3003402 | 1 | Seat Latch | |
| 12 | 443806 | 2 | Nut, 5/16-18 Hex Jam | |
| 13 | 66172 | 1 | Seat | |
| 14 | 163583 | 1 | • Seat Switch Wire Harness | |
| 15 | 434011 | 2 | • Screw, 1/4-20 x 5/8” Soc. Hd. | |
| 16 | 446130 | 2 | • Lockwasher, 1/4 | |
| 17 | 554390 | 1 | • Switch, Seat | Reference **SW6** |
| 18 | 3001328 | 6 | Screw, 5/16-18 x 5/8” Wsh Head | |
| 19 | 3003928 | 1 | Literature Pouch | |
| 20 | 3006988 | 1 | Seat Adjuster | |
| 21 | 3006991 | 1 | Seat Adjuster with Handle | |

> Change from previous revision

## 3.2 Seat and Base

Serial No. 67043-4744 and Up

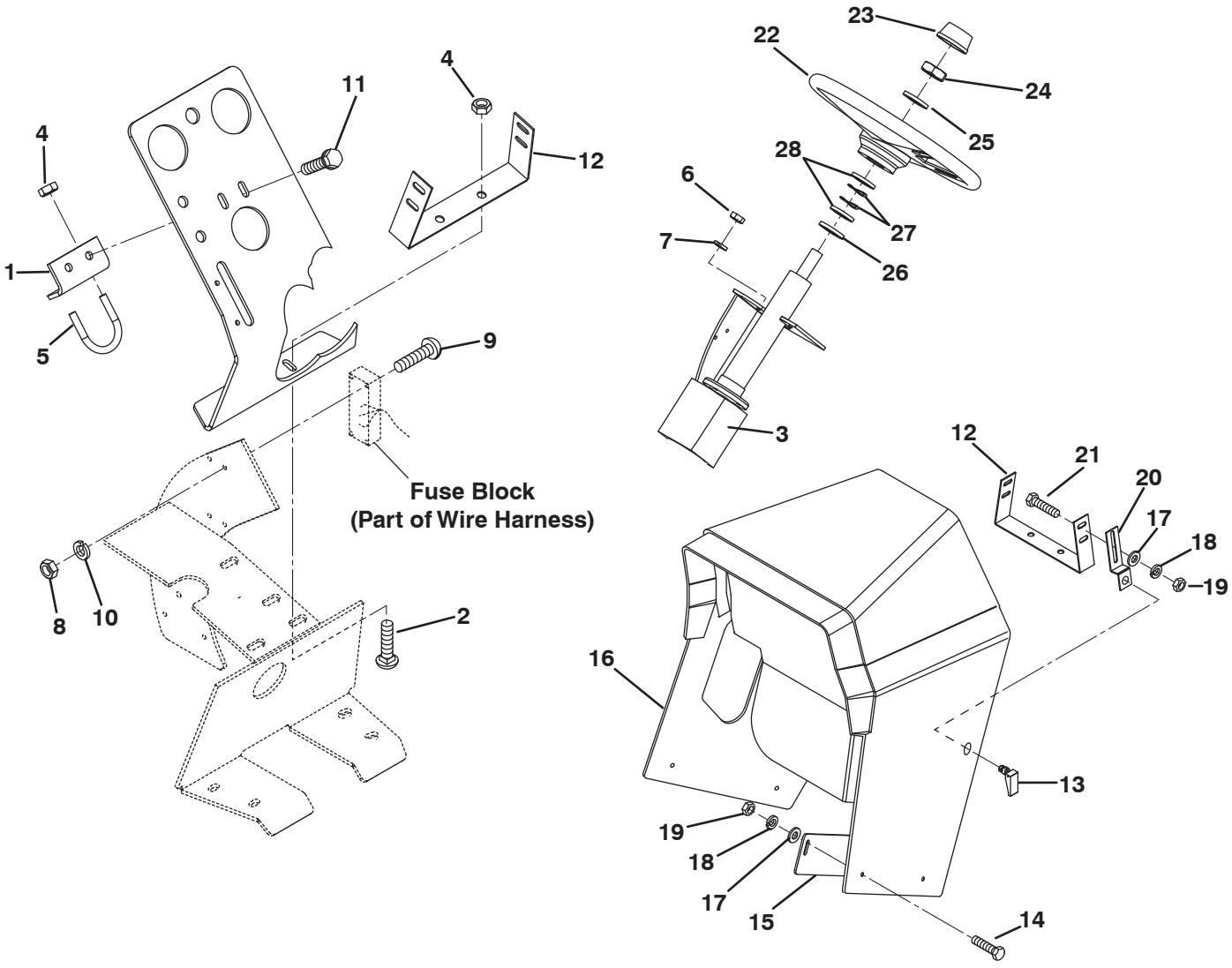


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 3003301 | 1 | Seat Base | |
| 2 | 558012 | 2 | Pad | |
| 3 | 3003368 | 1 | Plate | |
| 4 | 3003299 | 1 | Hinge | |
| 5 | 440078 | 5 | Carriage Bolt, 5/16-18 x 3/4” | |
| 6 | 452006 | 10 | Flat Washer, 5/16 | |
| 7 | 446136 | 10 | Lockwasher, 5/16 Hvy | |
| 8 | 443106 | 10 | Nut, 5/16 Hex | |
| 9 | 440088 | 1 | Carriage Bolt, 5/16-18 x 1-3/4” | |
| 10 | 3004410 | 2 | Spacer | |
| 11 | 3003402 | 1 | Seat Latch | |
| 12 | 443806 | 2 | Nut, 5/16-18 Hex Jam | |
| 13 | 4139430 | 1 | Seat | |
| 14 | 523357 | 1 | • Seat Adjuster | |
| 15 | 523356 | 1 | • Seat Adjuster with Handle | |
| 16 | 4139450 | 1 | • Switch, Seat | Reference **SW6** |
| 17 | 5003769 | 1 | Harness, Seat | |
| 18 | 3001328 | 6 | Screw, 5/16-18 x 5/8” Wsh Head | |
| 19 | 3003928 | 1 | Literature Pouch | |

> Change from previous revision

## 4.1 Dash Installation

Serial No. All

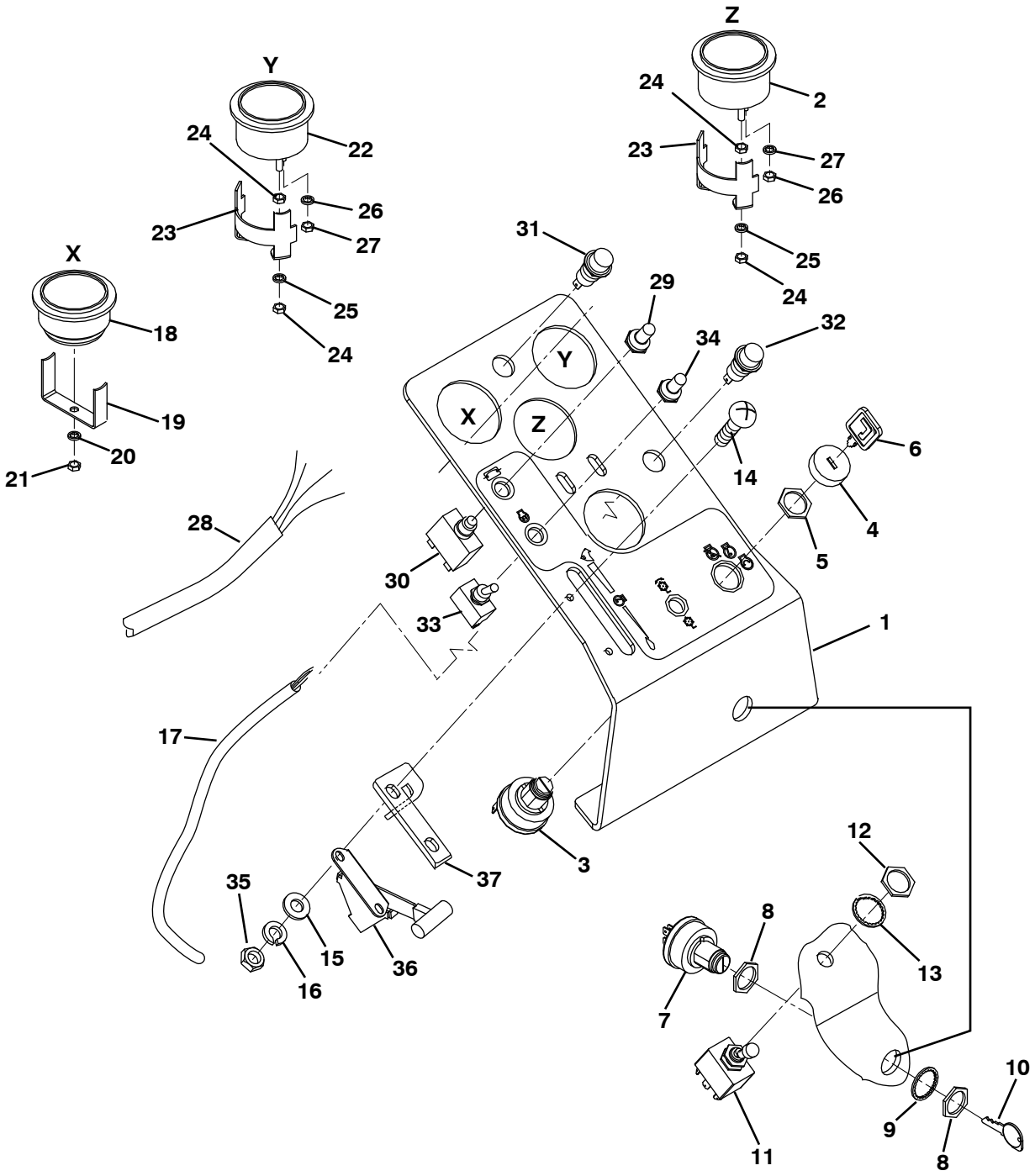


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1002264.7 | 1 | Angle Bracket | |
| 2 | 441602 | 4 | Carriage Bolt, 5/16-18 x 3/4” | |
| 3 | 1002898 | 1 | Steering Valve | |
| | 557738 | 1 | • Seal Kit | |
| | 502924 | 1 | • Spring Kit | |
| 4 | 444718 | 4 | Locknut, 5/16-18 Center | |
| 5 | 362469 | 1 | U-Bolt Clamp | |
| 6 | 444754 | 4 | Nut, 5/16-24 Hex Lock | |
| 7 | 453009 | 2 | Washer, 5/16 Flat | |
| 8 | 444310 | 4 | Nut, #10-24 Hex | |
| 9 | 403914 | 4 | Screw, #10-24 x 3/4” Truss Head | |
| 10 | 446116 | 4 | Lockwasher, #10 | |
| 11 | 403770 | 2 | Screw, 5/16-18 x 3/4 Hex Flange | |
| 12 | 3003540.7 | 1 | Mounting Bracket | |
| 13 | 3002098 | 2 | Latch | |
| 14 | 404016 | 4 | Screw, 1/4-20 x 5/8” Truss Head | |
| 15 | 3003468 | 2 | Plastic Plate | |
| 16 | 2810209 | 1 | Console Cover | |
| 17 | 452004 | 8 | Flat Washer, 1/4 | |
| 18 | 446130 | 8 | Lockwasher, 1/4 Hvy | |
| 19 | 443102 | 8 | Nut, 1/4-20 Hex | |
| 20 | 3003541 | 2 | Latch Bracket | |
| 21 | 441664 | 4 | Screw, 1/4-20 x 5/8” Round Head | |
| 22 | 2811364 | 1 | Steering Wheel | |
| 23 | 2811365 | 1 | • Steering Wheel Cap | |
| 24 | 3002861 | 1 | Nut, M16-1.5 Hex Jam | |
| 25 | 447224 | 1 | Lockwasher, 5/8 Internal Tooth | |
| 26 | 2811547 | 1 | Washer | |
| 27 | 454001 | 2 | Wave Washer, 3/4 | |
| 28 | 455048 | 2 | Flat Washer, 3/4 | |

> Change from previous revision

## 5.1 Instrument Panel

Serial No. All



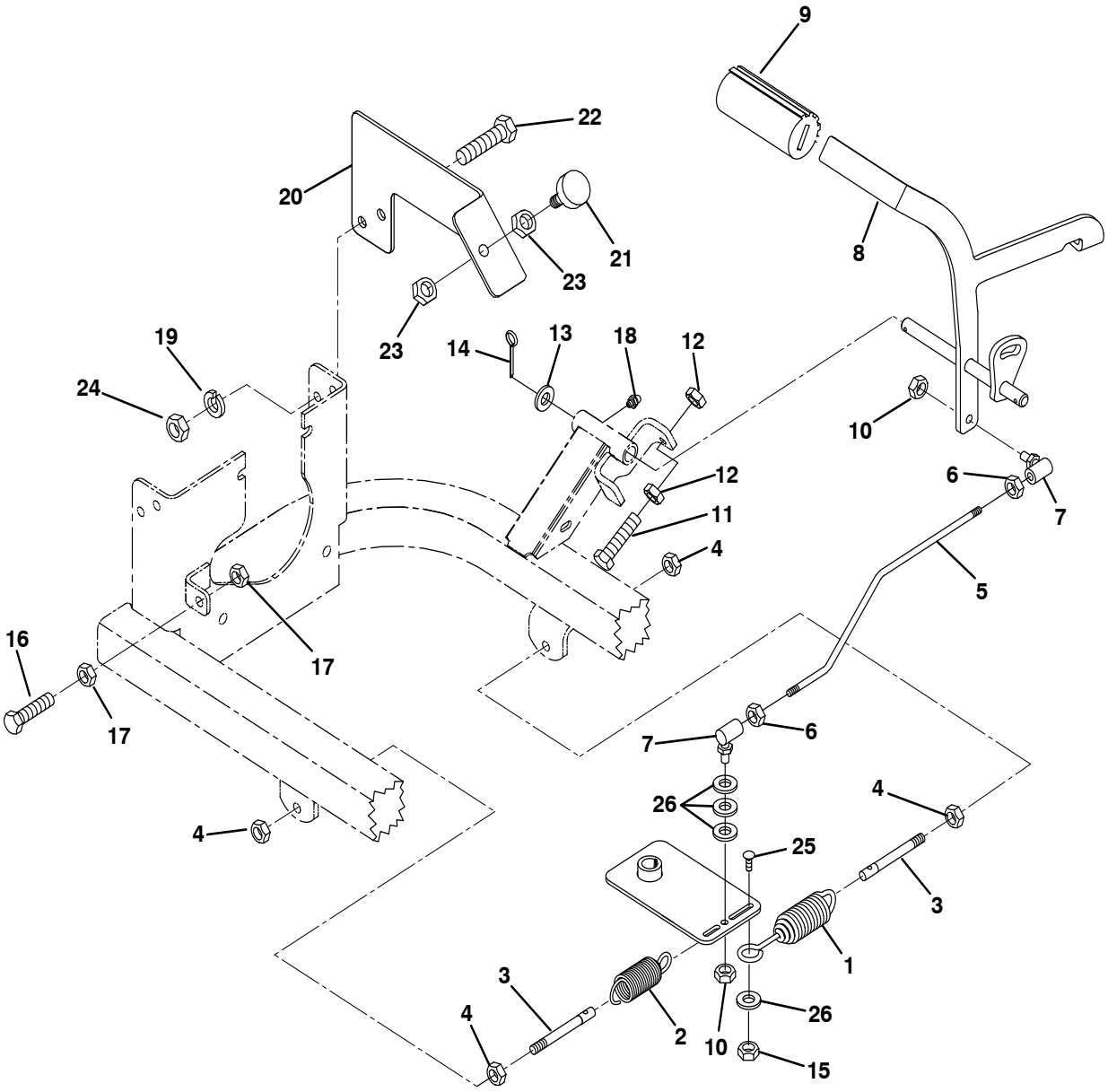
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 2811437 | 1 | Dash Panel | |
| 2 | 162720 | 1 | Water Gauge | Reference **U4** |
| 3 | 1001958 | 1 | Ignition Switch | Reference **SW9** |
| 4 | 5002101 | 1 | • Bezel | |
| 5 | 5002102 | 1 | • Nut | |
| 6 | 5000039 | 1 | • Ignition Key | |
| 7 | 1001010 | 1 | Backlap Switch | Reference **SW10** |
| 8 | 558036 | 2 | • Nut | |
| 9 | N/S | 1 | • Lockwasher | |
| 10 | 5001428 | 1 | • Mechanics Key | |
| 11 | 3001780 | 1 | PTO Switch | Reference **SW2** |
| 12 | 361862 | 2 | • Nut | |
| 13 | 447220 | 2 | • Lockwasher | |
| 14 | 403912 | 2 | Screw, #10-24 x 5/8” Tr. Hd. | |
| 15 | 452002 | 2 | Washer, #10 Flat | |
| 16 | 446118 | 2 | Lockwasher, #10 | |
| 17 | 2811632 | 1 | Harness, Brake Light | |
| 18 | 162723 | 1 | Hour Meter | Reference **U3** |
| 19 | N/S | 1 | • Bracket | |
| 20 | 447006 | 1 | • Lockwasher | |
| 21 | 444310 | 1 | • Nut, #10-24 Hex | |
| 22 | 162721 | 1 | Volt Meter | Reference **U2** |
| 23 | N/S | 1 | • Bracket | |
| 24 | 444306 | 4 | • Nut, #8-32 Hex | |
| 25 | 447206 | 2 | • Lockwasher, #8 | |
| 26 | 447002 | 2 | • Lockwasher, #6 | |
| 27 | 444304 | 2 | • Nut, #6 | |
| ● 28 | 1004795 | 1 | Wire Harness | See Note ● |
| 29 | 364774 | 1 | Circuit Breaker Boot | |
| 30 | 338601 | 1 | 10 Amp Circuit Breaker | Reference **CB2** |
| 31 | 164194 | 1 | Oil Pressure Light | Reference **L3** |
| 32 | 366751 | 1 | Light, Parking Brake | Reference **L4** |
| 33 | 363961 | 1 | Toggle Switch | Reference **SW1** |
| 34 | 363962 | 1 | Toggle Boot | |
| 35 | 444310 | 2 | Nut, #10-24 Hex | |
| 36 | 1004340 | 1 | Throttle Cable | |
| 37 | 3008433 | 1 | Plate, Stop | |

● Serial Number 67043-1601~4743
Seat Harness 5003769 will be required when replacing main wire harness.

> Change from previous revision

## 6.1 Hydro Control Linkage

Serial No. All

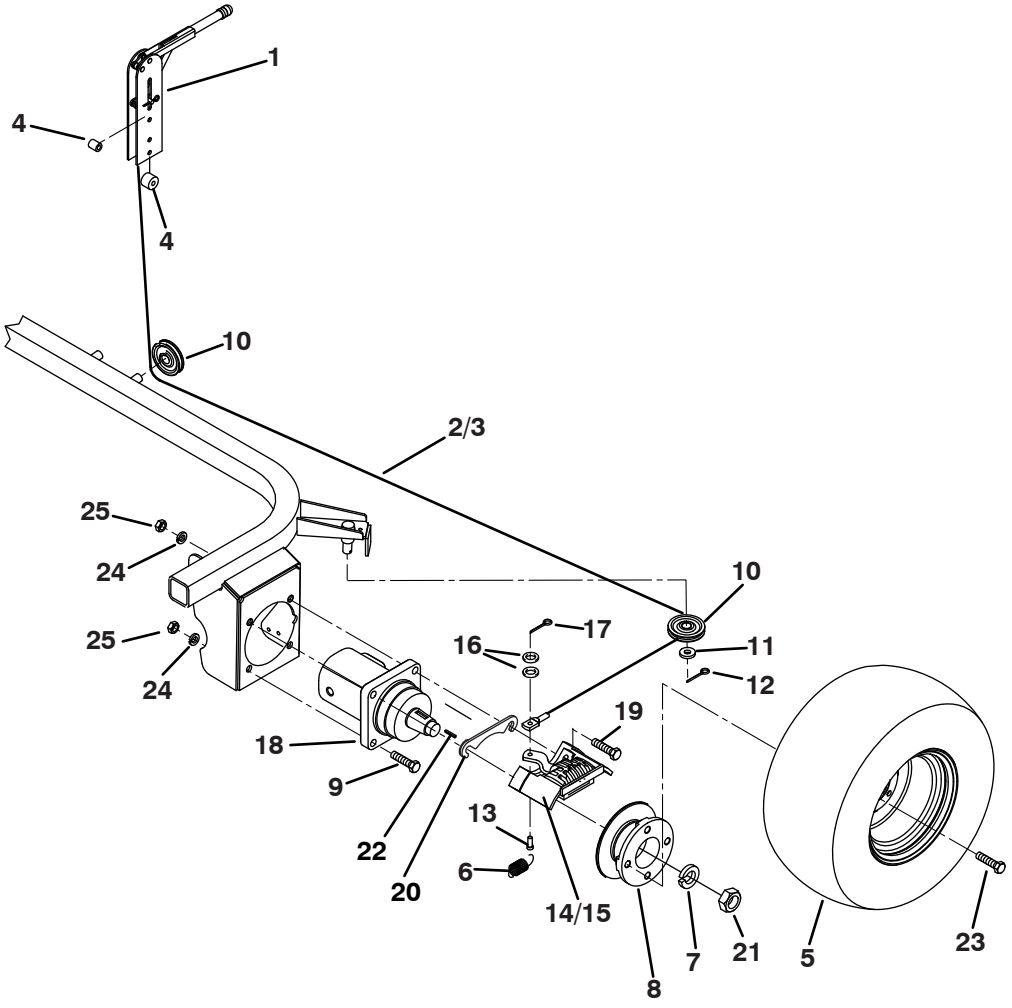


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 3006746 | 1 | Extension Spring | |
| 2 | 3006745 | 1 | Extension Spring | |
| 3 | 3002372 | 2 | Spring Bolt | |
| 4 | 443110 | 2 | Nut, 3/8-16 Hex | |
| 5 | 3002399 | 1 | Traction Rod | |
| 6 | 443108 | 4 | Nut, 5/16-24 Hex | |
| 7 | 343398 | 2 | Ball Joint | |
| 8 | 2811387 | 1 | Traction Pedal | |
| 9 | 3003475 | 1 | Pedal Grip | |
| 10 | 444754 | 2 | Locknut, 5/16-24 Center | |
| 11 | 400192 | 1 | Screw, 5/16-18 x 1-1/2” Hex Head | |
| 12 | 443106 | 2 | Nut, 5/16-18 Hex | |
| 13 | 453017 | 1 | Flat Washer, 1/2 | |
| 14 | 460028 | 1 | Cotter Pin, 1/8 x 1” | |
| 15 | 444708 | 1 | Locknut, 1/4-20 Center | |
| 16 | 400264 | 1 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 17 | 443810 | 2 | Nut, 3/8-16 Hex Jam | |
| 18 | 471214 | 1 | Grease Fitting | |
| 19 | 446142 | 4 | Lockwasher, 3/8 Hvy | |
| 20 | 3002673.7 | 2 | Bracket | |
| 21 | 354989 | 2 | Rubber Stop | |
| 22 | 400260 | 4 | Screw, 3/8-16 x 7/8 Hex Hd | |
| 23 | 443812 | 4 | Nut, 3/8-24 Jam | |
| 24 | 443110 | 4 | Nut, 3/8-16 Hex | |
| 25 | 441606 | 1 | Carriage Bolt, 1/4-20 x 3/4” | |
| 26 | 452006 | 4 | Flat Washer, 1/4 | |

> Change from previous revision

## 7.1 Front Motors and Brakes

Serial No. All

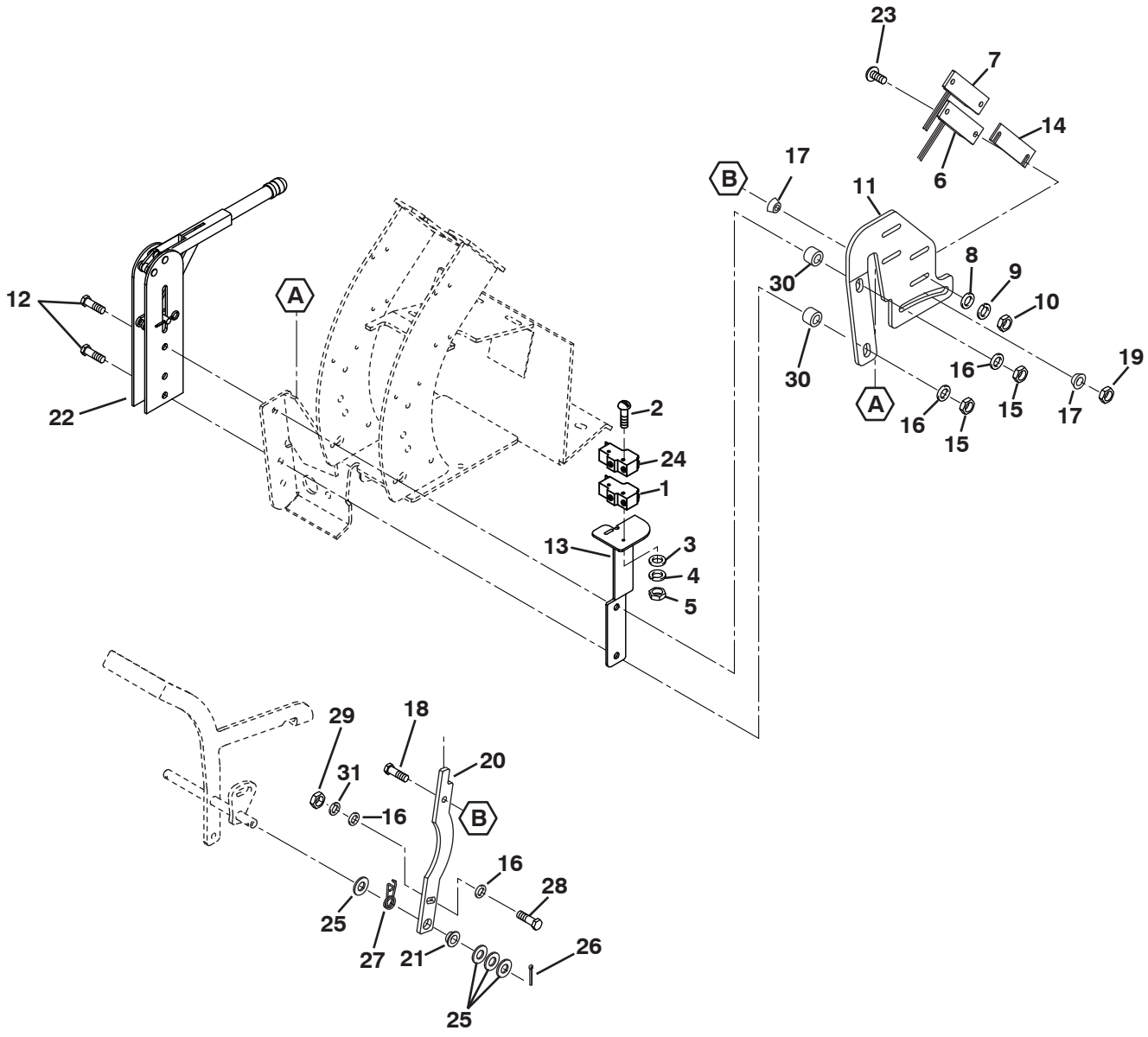


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 2500127 | 1 | Brake Lever | |
| 2 | 3002628 | 1 | R.H. Brake Cable | |
| 3 | 3002627 | 1 | L.H. Brake Cable | |
| 4 | 545237 | 2 | Spacer | |
| 5 | – | 2 | Tire and Wheel Assembly | |
| | 5001348 | 1 | • Tire, 20 x 10 x 10 | |
| | 5002906 | 1 | • Rim | |
| | 360111 | 1 | • Valve Stem | |
| 6 | 352204 | 2 | Spring | |
| 7 | 447030 | 2 | Lockwasher, 1 External Tooth | |
| 8 | 395388 | 2 | Wheel Hub | |
| 9 | 400410 | 4 | Screw, 1/2-13 x 1-3/4” Hex Head | |
| 10 | 338383 | 4 | Pulley | |
| 11 | 453020 | 4 | Washer, 5/8 | |
| 12 | 460028 | 4 | Cotter Pin, 1/8 x 1” | |
| 13 | 346771 | 2 | Pin, 5/16 | |
| 14 | 1001634 | 1 | L.H. Caliper | See 35.1 for Service Parts |
| 15 | 1001635 | 1 | R.H. Caliper | See 35.1 for Service Parts |
| 16 | 453009 | 2 | Flat Washer, 5/16 | |
| 17 | 460008 | 2 | Cotter Pin, 5/64 x 3/4” Plated | |
| 18 | 4182425 | 1 | Wheel Motor, Left Front | |
| 18 | 4189920 | 1 | Wheel Motor, Right Front | |
| | 4178561 | 1 | • Rear Seal Kit | |
| | 4178562 | 1 | • Shaft Seal Kit | Includes Shaft Seal & Seal Guards |
| | 5003384 | 1 | • Shaft and Bearing | |
| | 556450 | 4 | • Bolt | 4182425 Motors Only |
| | 554782 | 4 | • Bolt | 4189920 Motors Only |
| 19 | 400414 | 4 | • Screw, 1/2-13 x 2-1/4” Hex Head | |
| 20 | 3008482 | 2 | • Spacer | |
| 21 | 554779 | 2 | • Nut | |
| 22 | 554780 | 2 | • Key | |
| 23 | 353914 | 8 | Wheel Bolt | |
| 24 | 446154 | 8 | Lockwasher, 1/2 Hvy | |
| 25 | 443118 | 8 | Nut, 1/2-13 Hex | |

> Change from previous revision

## 8.1 Parking Brake, Neutral Start and 3WD Switches

Serial No. All

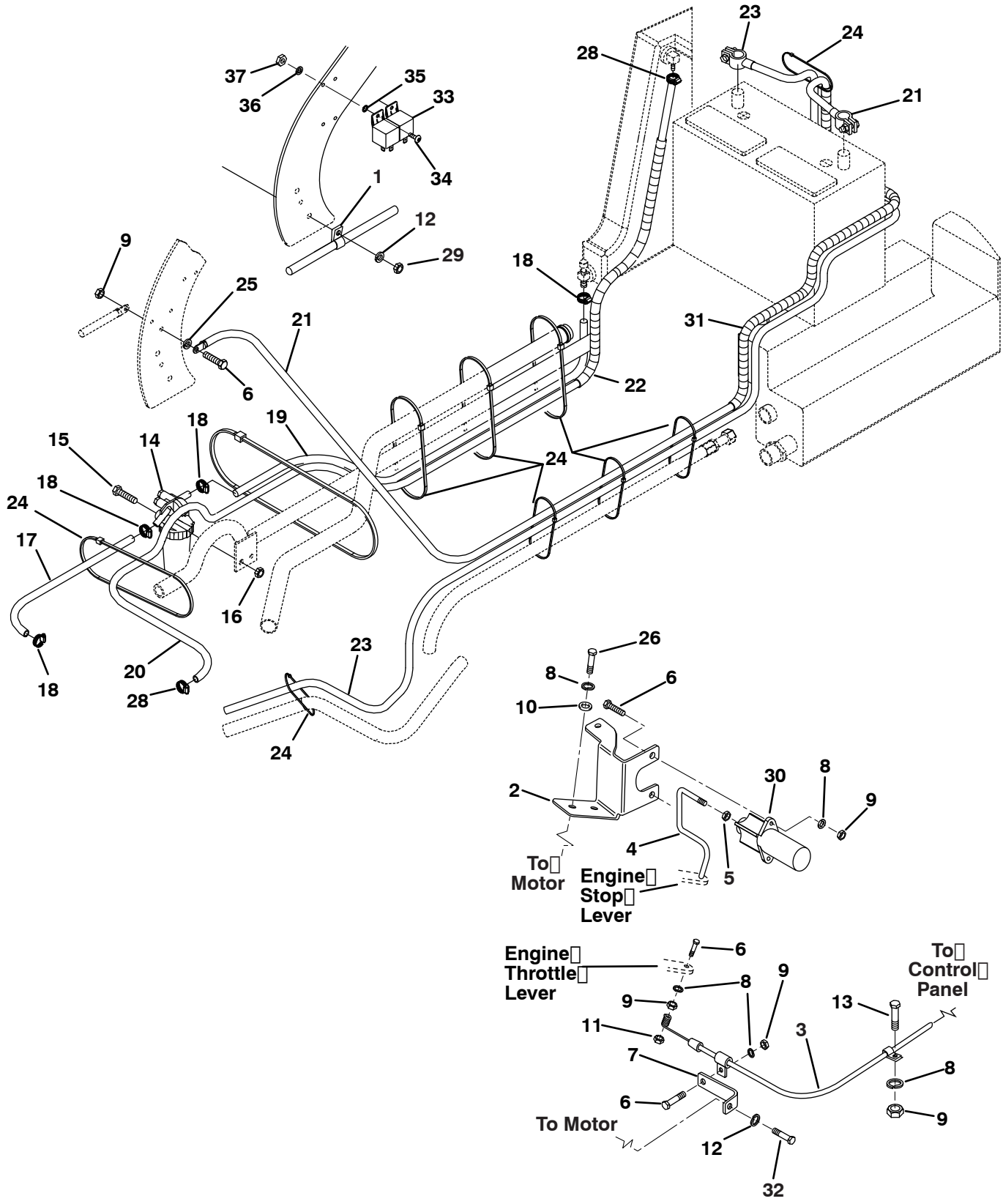


| | Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|---|
| | 1 | 3002056 | 1 | Switch, Parking Brake | Reference **SW8** |
| | 2 | 402022 | 2 | Screw, #6-32 x 2” Round Head | |
| | 3 | 453005 | 2 | Flat Washer, #6 | |
| | 4 | 447204 | 2 | Lockwasher, #6 Internal Tooth | |
| | 5 | 444304 | 2 | Nut, #6-32 Hex | |
| | 6 | 4140149 | 1 | Switch, Proximity | Reference **SW5** |
| | 7 | 4140149 | 1 | Switch, Proximity | Reference **SW7** |
| | 8 | 453004 | 4 | Flat Washer, #8 | |
| | 9 | 446110 | 4 | Lockwasher, #8 | |
| | 10 | 444306 | 4 | Nut, #8-32 Hex | |
| > | 11 | 2812215 | 1 | Plate, Switch Mounting | |
| | 12 | 400216 | 2 | Screw, 5/16-18 x 2-3/4” Hex Head | |
| | 13 | 3002788 | 1 | Bracket, Parking Brake Switch | |
| | 14 | 3009193 | AR | Shim, Proximity Switch | |
| | 15 | 444718 | 2 | Locknut, 5/16-18 Center | |
| | 16 | 453009 | 4 | Flat Washer, 5/16 | |
| | 17 | 2811659 | 1 | Spacer, Nylon | |
| | 18 | 400118 | 1 | Screw, 1/4-20 x 1-3/4” Hex Head | |
| | 19 | 444708 | 1 | Locknut, 1/4-20 Center | |
| | 20 | 2811654 | 1 | Arm, Switch Actuating | |
| | 21 | 352936 | 1 | • Bushing | |
| | 22 | REF | 1 | Parking Brake | See 7.1 |
| | 23 | 403860 | 4 | Screw, #8-32 x 5/8” Truss Head | |
| | 24 | 3002056 | 1 | Switch, Parking Brake Light | Reference **SW12** |
| | 25 | 453017 | 4 | Flat Washer, 1/2 | |
| | 26 | 460028 | 2 | Cotter Pin, 1/8 x 1” | |
| | 27 | 2811390 | 1 | Spring, Torsion | |
| | 28 | 400190 | 1 | Screw, 5/16-18 x 1-1/4” Hex Head | |
| | 29 | 443806 | 1 | Nut, 5/16-18 Hex Jam | |
| | 30 | 3004410 | 2 | Spacer | |
| | 31 | 446136 | 1 | Lockwasher, 5/16 Heavy | |

> Change from previous revision

## 9.1 Fuel Control

Serial No. All

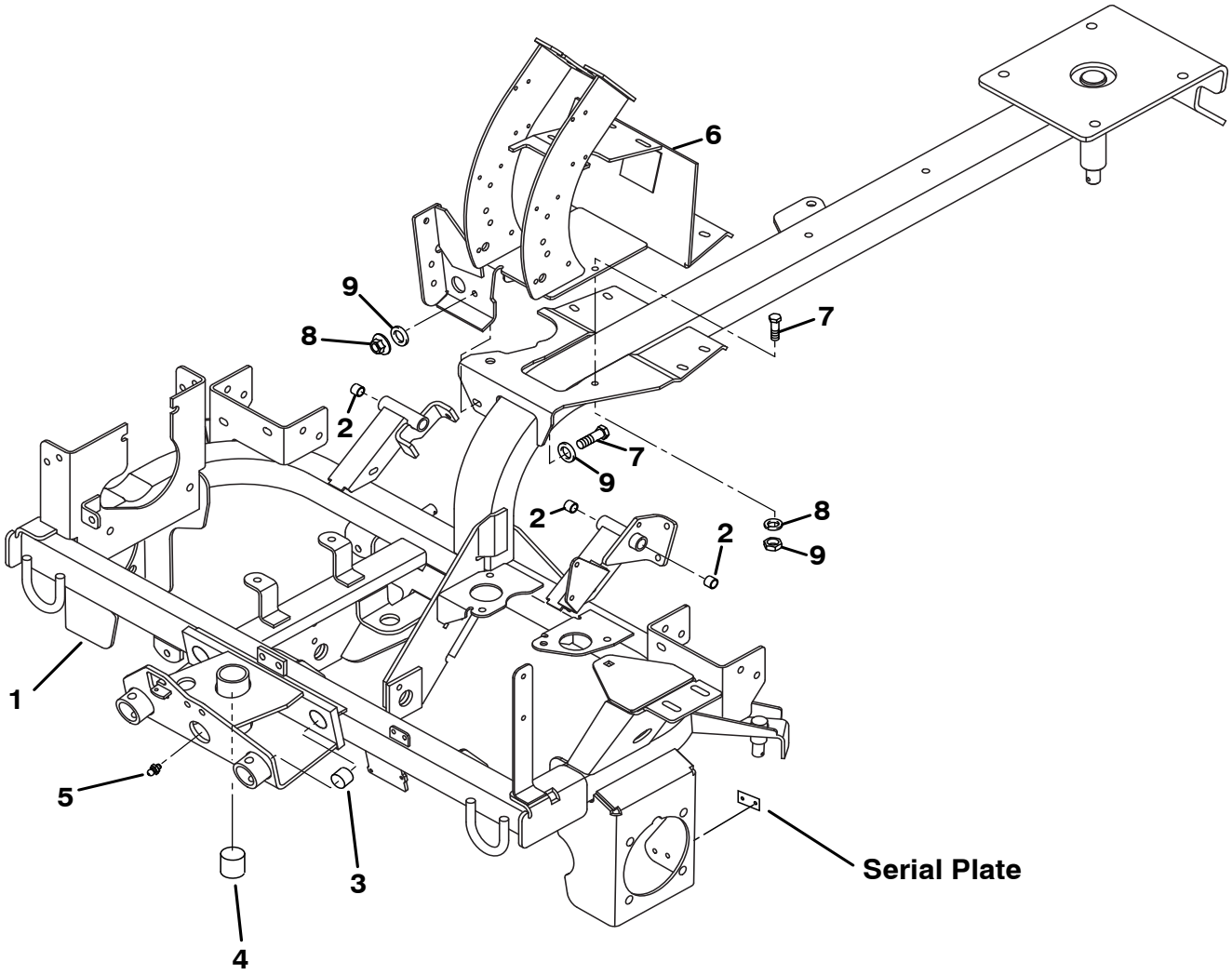


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 345671 | 1 | Clamp | |
| 2 | 2810088 | 1 | Bracket, Solenoid | |
| 3 | REF | 1 | Throttle Cable | See 5.1 |
| 4 | 2810546 | 1 | Rod, Solenoid | |
| 5 | 443104 | 1 | Nut, 1/4-28, Hex | |
| 6 | 400112 | 5 | Screw, 1/4-20 x 1” Hex Head | |
| 7 | 2810134 | 1 | Throttle Cable Bracket | |
| 8 | 446130 | 8 | Lockwasher, 1/4 Hvy | |
| 9 | 443102 | 7 | Nut, 1/4-20 Hex | |
| 10 | 453023 | 2 | Flat Washer, 1/4 | |
| 11 | 444708 | 1 | Locknut, 1/4-20 Center | |
| 12 | 446136 | 2 | Lockwasher, 5/16 Hvy | |
| 13 | 400108 | 1 | Screw, 1/4-20 x 3/4” Hex Head | |
| 14 | 550553 | 1 | Fuel Filter | |
| | 550489 | 1 | • Fuel Filter Element | |
| 15 | 400200 | 1 | Screw, 5/16-18 x 2-1/2” Hex Head | |
| 16 | 444718 | 1 | Locknut, 5/16-18 Center | |
| 17 | 554748 | 1 | Fuel Line Hose | Cut to 13” |
| 18 | 366526 | 4 | Hose Clamp | |
| 19 | 554748 | 1 | Fuel Line Hose | Cut to 37” |
| 20 | 554752 | 1 | Fuel Line Hose | Cut to 88” |
| 21 | 3003523 | 1 | Negative Battery Cable | |
| 22 | 3003764 | 1 | Convoluted Conduit | |
| 23 | 2810624 | 1 | Positive Battery Cable | |
| 24 | 473142 | 15 | Nylon Tie | |
| 25 | 447010 | 1 | Washer, 1/4 Star | |
| 26 | 362535 | 2 | Screw | |
| 27 | 3004410 | 2 | Spacer | |
| 28 | 366526 | 2 | Hose Clamp | |
| 29 | 443106 | 1 | Nut, 5/16-18 Hex | |
| 30 | 338289 | 1 | Fuel Solenoid | Reference **K1** |
| 31 | 3004539 | 1 | Convoluted Circuit | |
| 32 | 361898 | 1 | Screw, M8-1.25 x 16MM Hex | |
| 33 | 3001307 | 2 | Relay | Reference **K7** and **K8** |
| 34 | 403912 | 1 | Screw, #10-24 x 5/8” Truss Head | |
| 35 | 447006 | 1 | Lockwasher, #10 External Tooth | |
| 36 | 446118 | 1 | Lockwasher, #10 Heavy | |
| 37 | 444310 | 1 | Nut, #10-24 Hex | |

> Change from previous revision

## 10.1 Frame

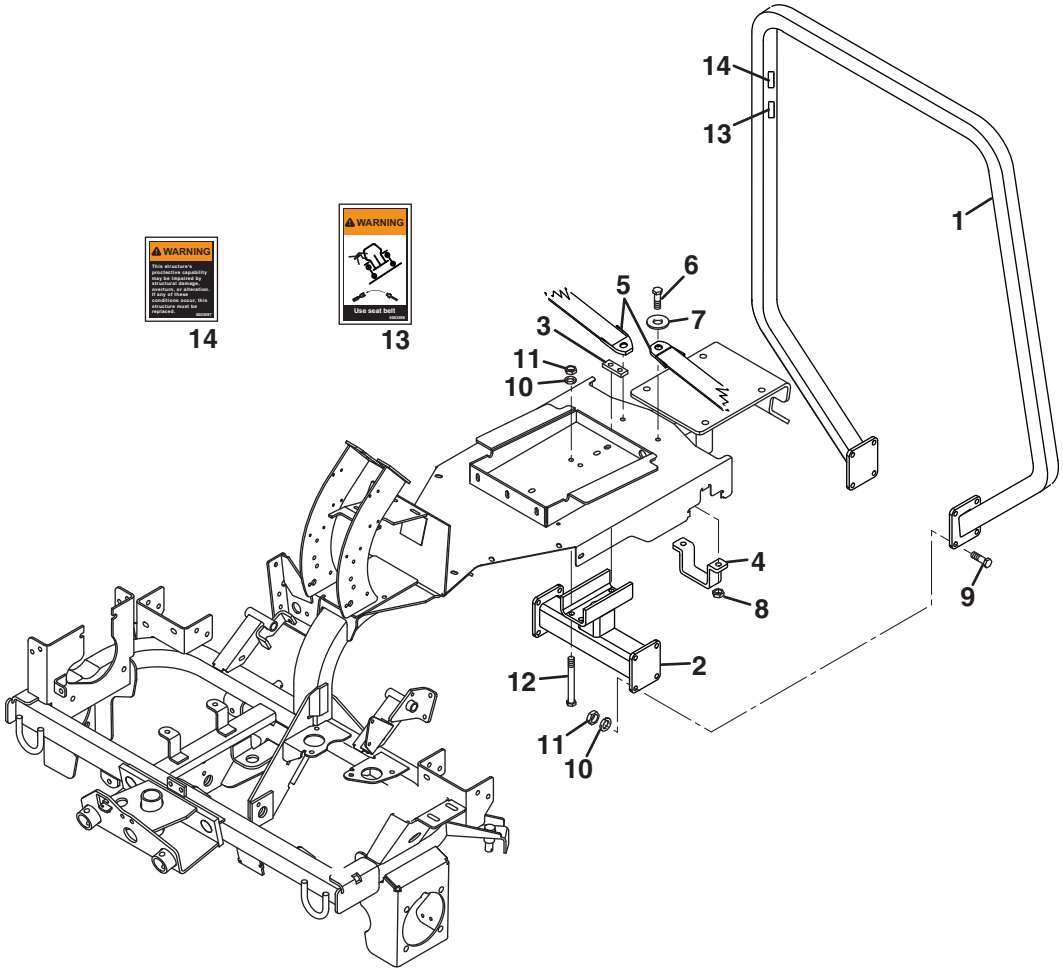
Serial No. All




| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4130752 | 1 | Frame | |
| 2 | 328133 | 4 | • Bushing | |
| 3 | 3002170 | 4 | • Bushing | |
| 4 | 365106 | 2 | • Bushing | |
| 5 | 471216 | 1 | • Grease Fitting | |
| 6 | 2811393 | 1 | Column Assembly | |
| 7 | 400188 | 2 | Screw. 5/16-18 x 1” Hex Head | |
| 8 | 445781 | 2 | Nut, 5/16-18 Whizlock Flange | |
| 9 | 452006 | 2 | Flat Washer, 5/16 | |

> Change from previous revision

# 11.1 ROPS

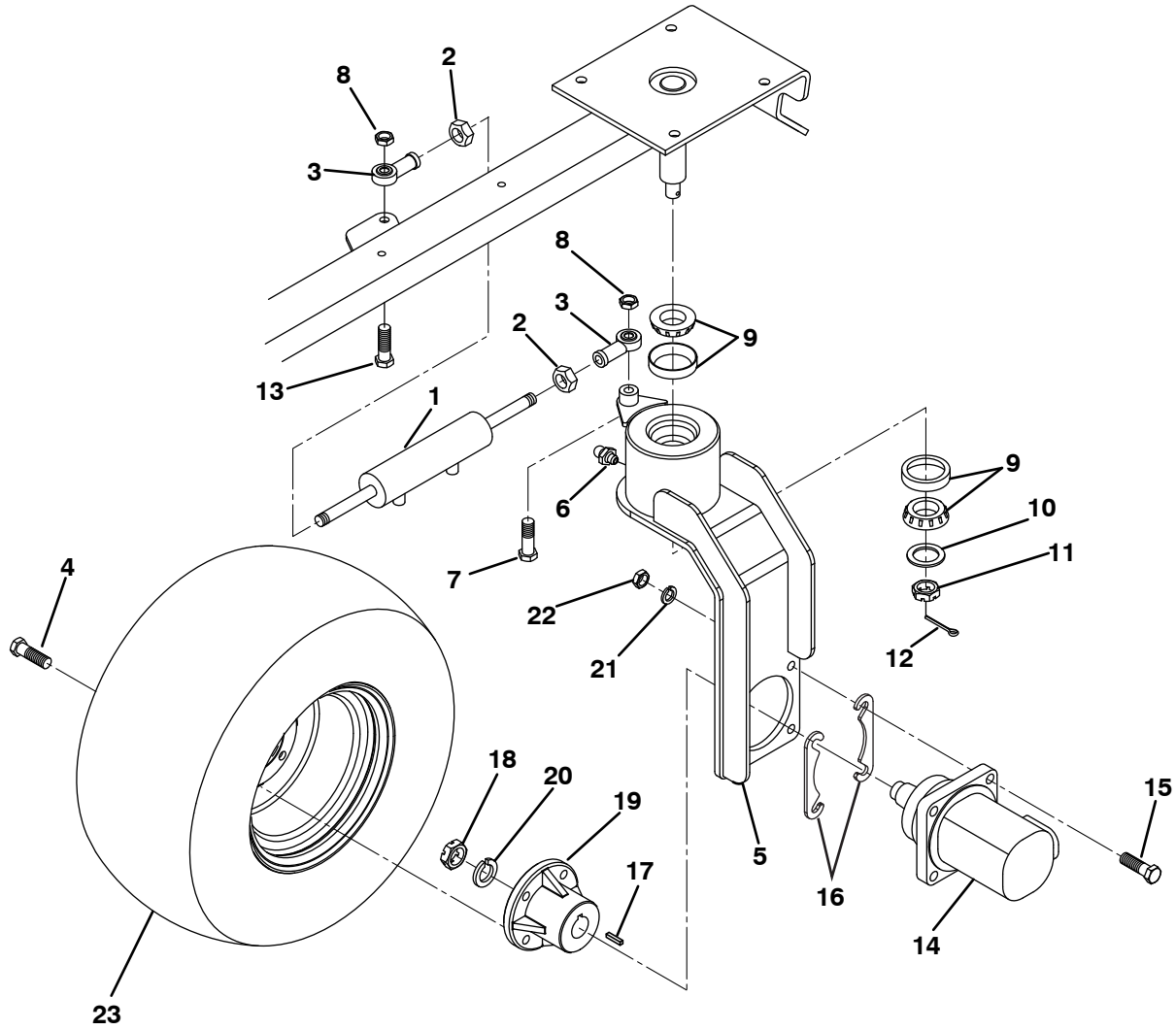



| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 69157 | 1 | ROPS Assembly | |
| 2 | 4187944 | 1 | • Base, ROPS | |
| 3 | 5003595 | 1 | • Rear Backing Plate | |
| 4 | 5003596 | 1 | • Seat Belt Bracket | |
| 5 | 5000629 | 1 | • Seat Belt, 60” | |
| 6 | 400370 | 2 | • Screw, 7/16-20 x 1” Hex Head | |
| 7 | 452010 | 2 | • Flat Washer, 7/16 | |
| 8 | 444730 | 2 | • Locknut, 7/16-20 Uni-Torque | |
| 9 | 400408 | 8 | • Screw, 1/2-13 x 1-1/2” Hex Head | |
| 10 | 446154 | 12 | • Lockwasher, 1/2 Heavy | |
| 11 | 443118 | 12 | • Nut, 1/2-13 Hex | |
| 12 | 400420 | 4 | • Screw, 1/2-13 x 3-1/2” Hex Head | |
| 13 | 5003598 | 1 | • Decal, Seat Belt Warning | |
| 14 | 5003597 | 1 | • Decal, Structure Warning | |
| 15 | 5003599 | 1 | • Drill Template | Not Shown, See 2.1 |

> Change from previous revision

## 12.1 Rear Steering

Serial No. All

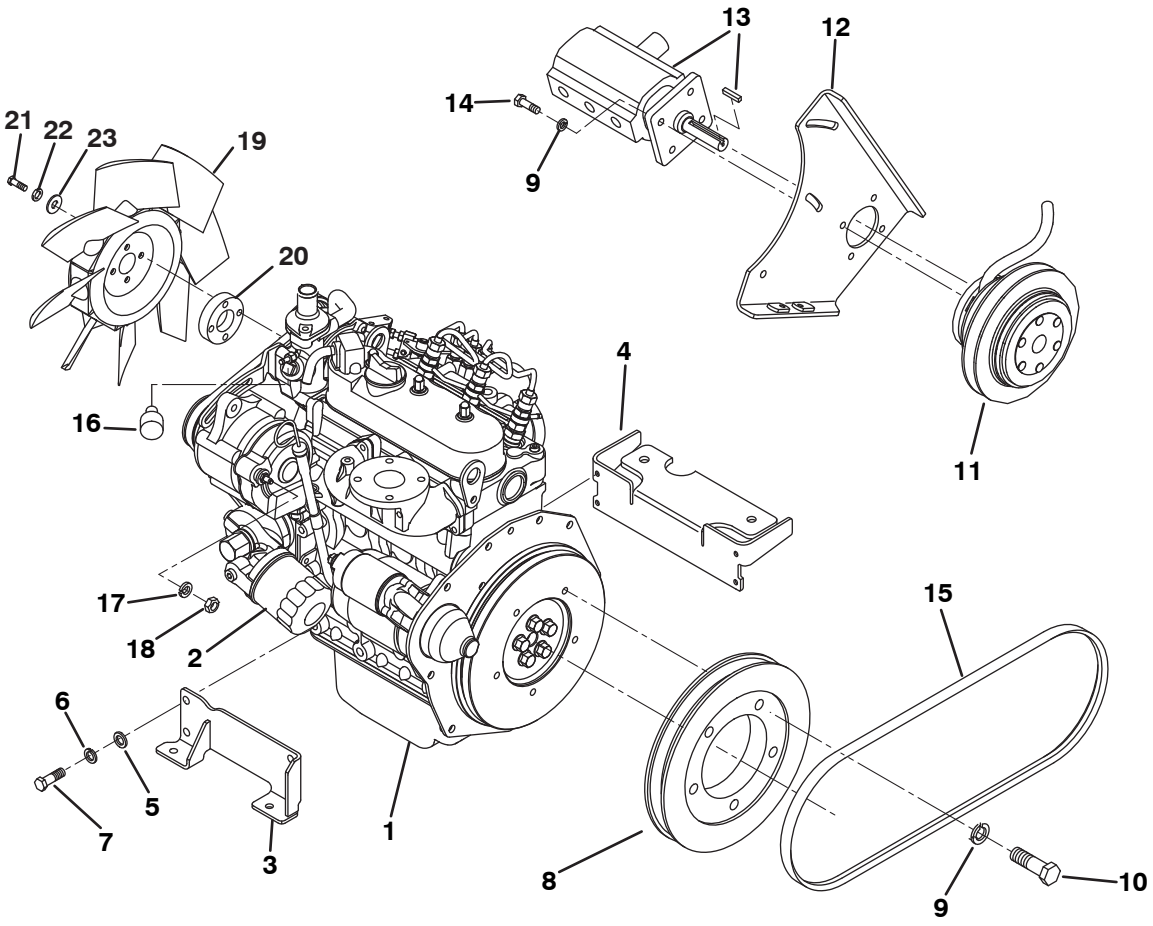


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4138501 | 1 | Steering Cylinder (Includes 1A) | |
| | 4137139 | 1 | • Seal Kit | |
| 2 | 443820 | 2 | Nut, 1/2-20 Hex | |
| 3 | 3010485 | 2 | Ball Joint | |
| 4 | 353914 | 4 | Wheel Bolt | |
| 5 | 1001129.7 | 1 | Steering Fork | |
| 6 | 471231 | 1 | Grease Fitting | |
| 7 | 400414 | 1 | Screw, 1/2-13 x 2-1/4” Hex Head | |
| 8 | 444758 | 2 | Locknut, 1/2-13 Center | |
| 9 | 5002916 | 2 | Bearing, Cup and Cone with Seal | |
| 10 | 452018 | 1 | Flat Washer, 3/4 | |
| 11 | 445676 | 1 | Nut, 3/4-16 Slotted | |
| 12 | 460054 | 1 | Cotter Pin, 3/16 x 1-3/4” | |
| 13 | 400408 | 1 | Screw, 1/2-13 x 1-1/2” Hex Head | |
| 14 | 4182425 | 1 | Wheel Motor | |
| | 4178561 | 1 | • Rear Seal Kit | |
| | 4178562 | 1 | • Shaft Seal Kit | Includes Shaft Seal & Seal Guards |
| | 5003384 | 1 | • Shaft and Bearing | |
| | 556450 | 4 | • Bolt | |
| 15 | 400414 | 4 | • Screw, 1/2-13 x 2-1/4” Hex Head | |
| 16 | 3008482 | 2 | • Spacer | |
| 17 | 554780 | 1 | • Key | |
| 18 | 554779 | 1 | • Nut | |
| 19 | 220290.7 | 1 | Rear Wheel Hub | |
| 20 | 447030 | 1 | Lockwasher, 1 External Tooth | |
| 21 | 446154 | 4 | Lockwasher, 1/2 Hvy | |
| 22 | 443118 | 4 | Nut, 1/2-13 Hex | |
| 23 | – | 1 | Tire and Wheel Assembly | |
| | 366790 | 1 | • Tire, 20 x 10 x 8 | |
| | 1003638 | 1 | • Rim | |
| | 360111 | 1 | • Valve Stem | |

> Change from previous revision

## 13.1 Engine and Pump

Serial No. All



| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1001889 | 1 | Diesel Engine (Kubota D662) | Serial No. 1601~4995 |
| 1 | 4143350 | 1 | Diesel Engine (Kubota D662) | Serial No. 4996 and Up |
| 2 | 5002644 | 1 | • Oil Filter Cartridge | |
| 3 | 4127309.7 | 1 | Engine Front Bracket | |
| 4 | 2811637.7 | 1 | Engine Rear Bracket | |
| 5 | 452008 | 8 | Flat Washer, 3/8 | |
| 6 | 363485 | 8 | Lockwasher, M10 | |
| 7 | 362263 | 8 | Bolt M10-1.25 x 25mm | |
| 8 | 2810499.7 | 1 | Engine Pulley | |
| 9 | 446136 | 8 | Lockwasher, 5/16 Hvy | |
| 10 | 2810545 | 5 | Screw, SKT Button Cap | |
| 11 | 2809727 | 1 | Clutch | |
| 12 | 4130754.7 | 1 | Pump Mount Bracket | |
| 13 | 1000970 | 1 | Hydraulic Pump, Reel | See 31.1 for Service Parts |
| 14 | 400226 | 4 | Screw, 5/16-24 x 1” Hex Head | |
| 15 | 3001950 | 1 | V-Belt | |
| 16 | 364501 | 1 | Temperature Sender | Reference **U5** |
| 17 | 446128 | 1 | Lockwasher, 1/4 | |
| 18 | 361001 | 1 | Nut, M6-1 | |
| 19 | 4141024 | 1 | Fan, Engine Cooling | Serial No. 4996 and Up |
| 20 | 4125492 | 1 | Spacer, Fan | Serial No. 4996 and Up |
| 21 | 363448 | 4 | Screw, M6-1 x 35 mm Hex Head | Serial No. 4996 and Up |
| 22 | 446130 | 4 | Lockwasher, 1/4 Heavy | Serial No. 4996 and Up |
| 23 | 452004 | 4 | Flat Washer, 1/4 | Serial No. 4996 and Up |

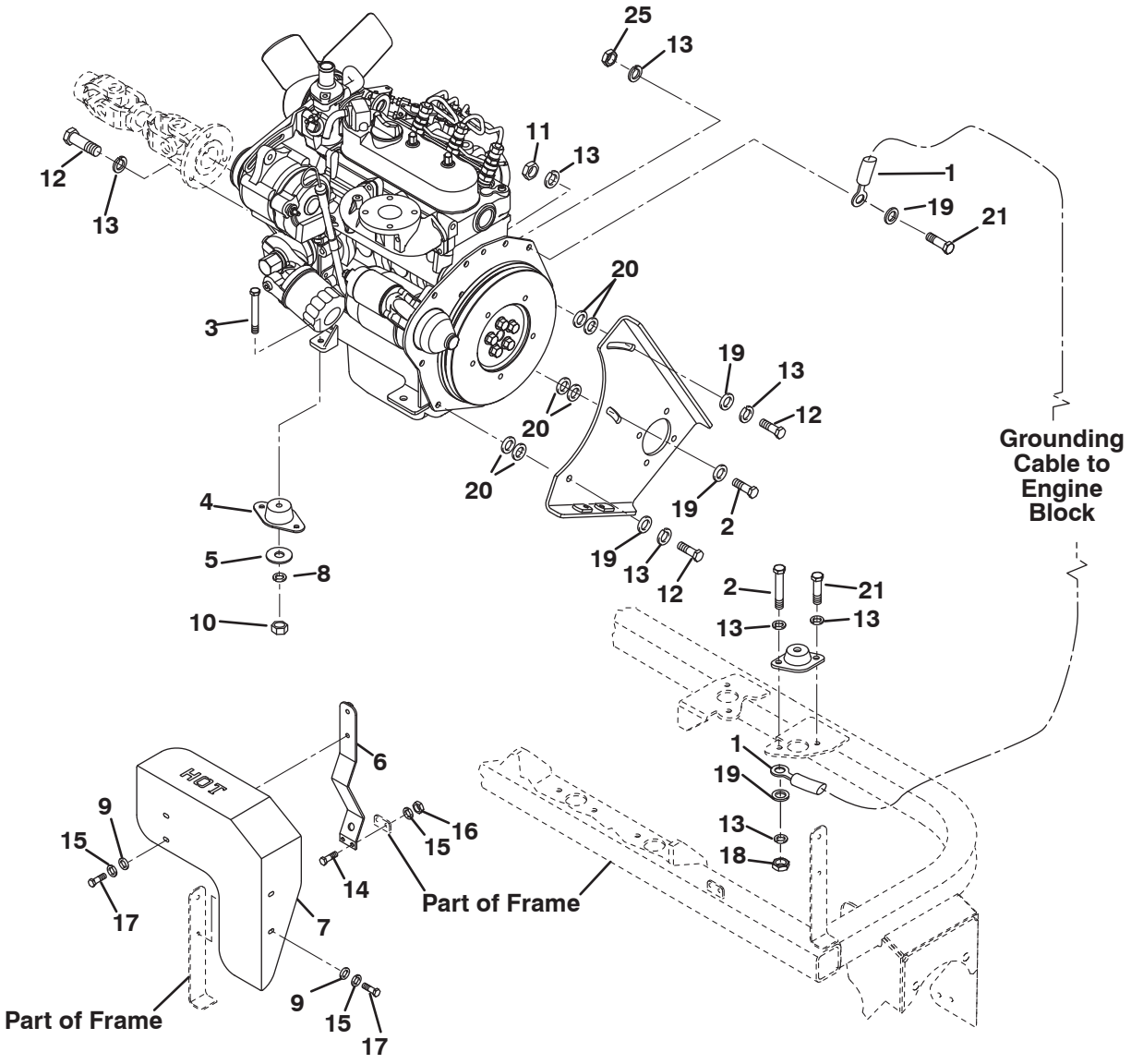
● 67043-1601~3969 units updated with 4123033 Muffler Kit and 4124824 Stay Bar Kit

> Change from previous revision

Serial No. All

# 14.1 Diesel Engine Mounting

**Diesel Engine**

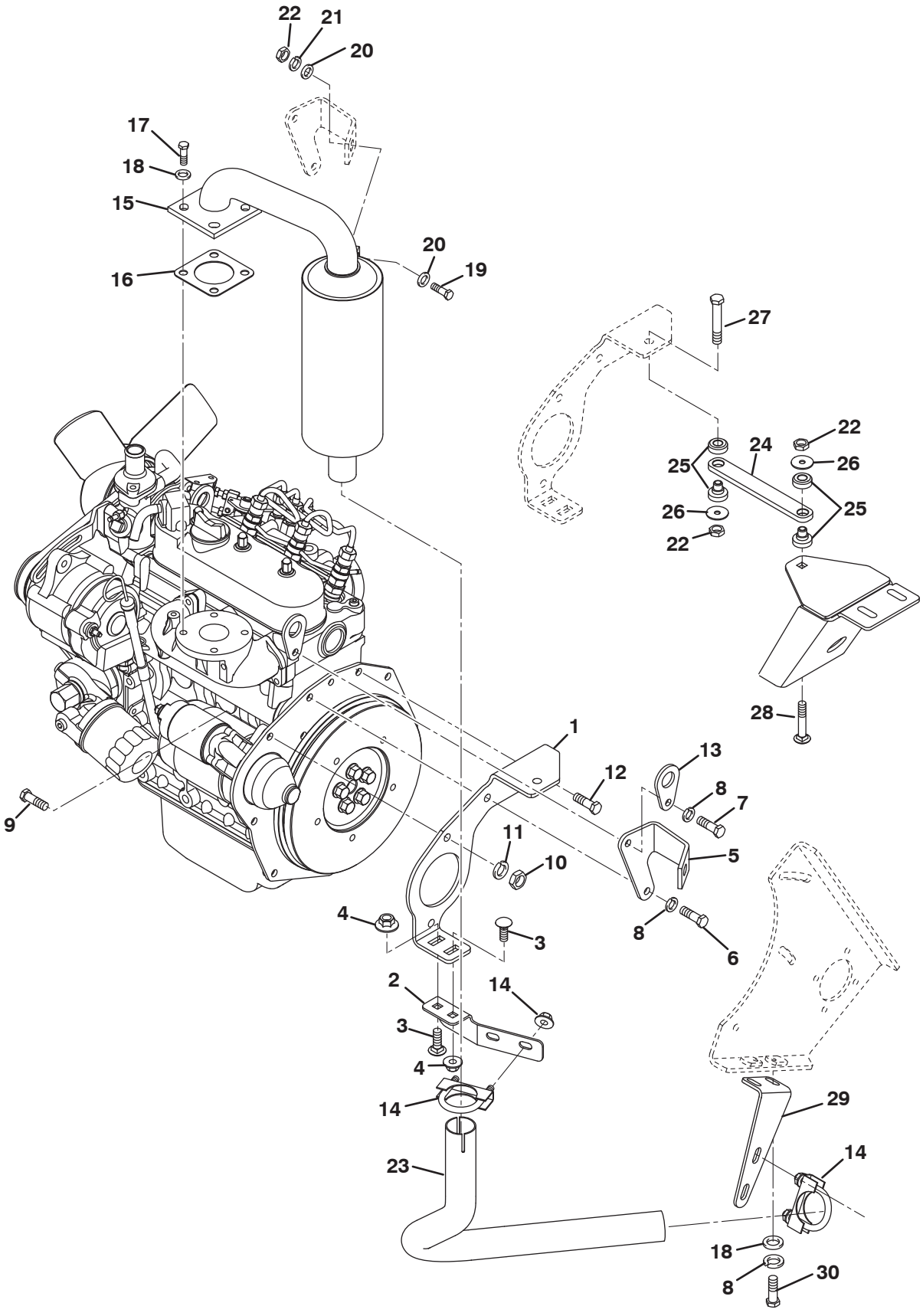


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 346006 | 1 | Cable, Grounding | |
| 2 | 400190 | 2 | Screw, 5/16-18 x 1-1/4” Hex Head | |
| 3 | 400272 | 4 | Screw, 3/8-16 x 2-1/4” Hex Head | |
| 4 | 3004523 | 4 | Mount, Isolation | |
| 5 | 3004526 | 4 | Washer, Mount Isolator | |
| 6 | 4121872.7 | 1 | Bracket, Heat Shield | |
| 7 | 4121856.7 | 1 | Muffler Shield | |
| 8 | 446142 | 4 | Lockwasher, 3/8 Hvy | |
| 9 | 452004 | 4 | Flat Washer, 1/4 | |
| 10 | 443110 | 4 | Nut, 3/8-16 Hex | |
| 11 | 444718 | 2 | Locknut, 5/16-18 Center | |
| 12 | 361005 | 3 | Bolt, M8-1.25 x 25mm | |
| 13 | 446136 | 13 | Lockwasher, 5/16 Hvy | |
| 14 | 400108 | 2 | Screw, 1/4-20 x 3/4” Hex Head | |
| 15 | 446130 | 6 | Lockwasher, 1/4 Heavy | |
| 16 | 443102 | 2 | Nut, 1/4-20 Hex | |
| 17 | 400106 | 4 | Screw, 5/16-18 x 5/8” Hex Head | |
| 18 | 443106 | 1 | Nut, 5/16 Hex | |
| 19 | 452006 | 5 | Flat Washer, 5/16 | |
| 20 | 457016 | 6 | Washer, 5/16 x 1/16” | |
| 21 | 400186 | 8 | Screw, 5/16-18 x 3/4” Hex Head | |
| ● | 67043-1601~3969 units updated with 4123033 Muffler Kit and 4124824 Stay Bar Kit | | | |

> Change from previous revision

## 15.1 Diesel Engine Exhaust

Serial No. All



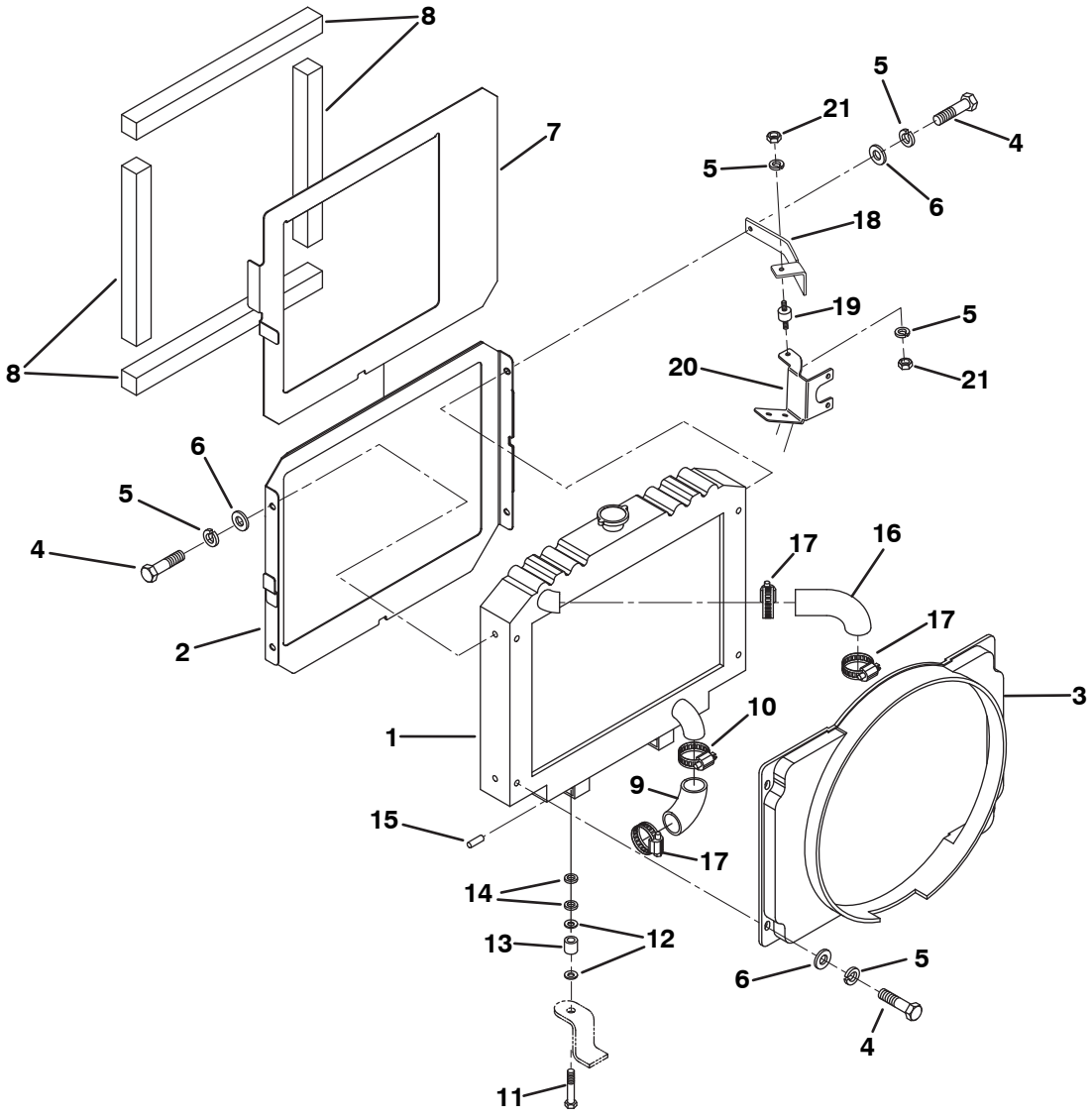
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4130755 | 1 | Bracket, Muffler | |
| 2 | 4130753 | 1 | Bracket, Muffler | |
| 3 | 441602 | 2 | Carriage Bolt, 5/16-18 x 3/4” | |
| 4 | 445795 | 2 | Nut, 5/16-18 Spiralock Flange | |
| 5 | 4121007.7 | 1 | Bracket, Muffler | |
| 6 | 361005 | 1 | Screw, M8-1.25 x 25 mm Hex Head | |
| 7 | 363586 | 1 | Screw, M8-1.25 x 20 mm Hex Head | |
| 8 | 446136 | 10 | Lockwasher, 5/16 Heavy | |
| 9 | 550383 | 2 | Bolt, Starter | Included with Engine |
| 10 | 550398 | 2 | Nut | Included with Engine |
| 11 | 550409 | 2 | Washer, Spring | Included with Engine |
| 12 | 550376 | 1 | Bolt | Included with Engine |
| 13 | 553934 | 1 | Hook, Engine | Included with Engine |
| 14 | 1002033 | 2 | Exhaust Clamp | |
| 15 | 4121920 | 1 | Muffler | |
| 16 | 553020 | 1 | Gasket, Exhaust | Included with Engine |
| 17 | 594331 | 4 | Bolt, Muffler | Included with Engine |
| 18 | 452006 | 6 | Flat Washer, 5/16 | |
| 19 | 400264 | 1 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 20 | 452008 | 2 | Flat Washer, 3/8 | |
| 21 | 446142 | 1 | Lockwasher, 3/8 Heavy | |
| 22 | 444762 | 3 | Locknut, 3/8-16 Center | |
| 23 | 4123003 | 1 | Pipe, Exhaust | |
| 24 | 4130756 | 1 | Stay Bar, Engine | |
| 25 | 4124806 | 2 | Mount, Bonded Tube Isolator | |
| 26 | 319755 | 2 | Washer | |
| 27 | 400270 | 1 | Screw, 3/8-16 x 2” Hex Head | |
| 28 | 441630 | 1 | Carriage Bolt, 3/8-16 x 2” | |
| 29 | 4130757 | 1 | Bracket, Tailpipe | |
| 30 | 400186 | 2 | Screw, 5/16-18 x 7/8” Hex Head | |

● 67043-1601~3969 units updated with 4123033 Muffler Kit and 4124824 Stay Bar Kit

> Change from previous revision

## 16.1 Radiator Installation

Serial No. 1601~4995



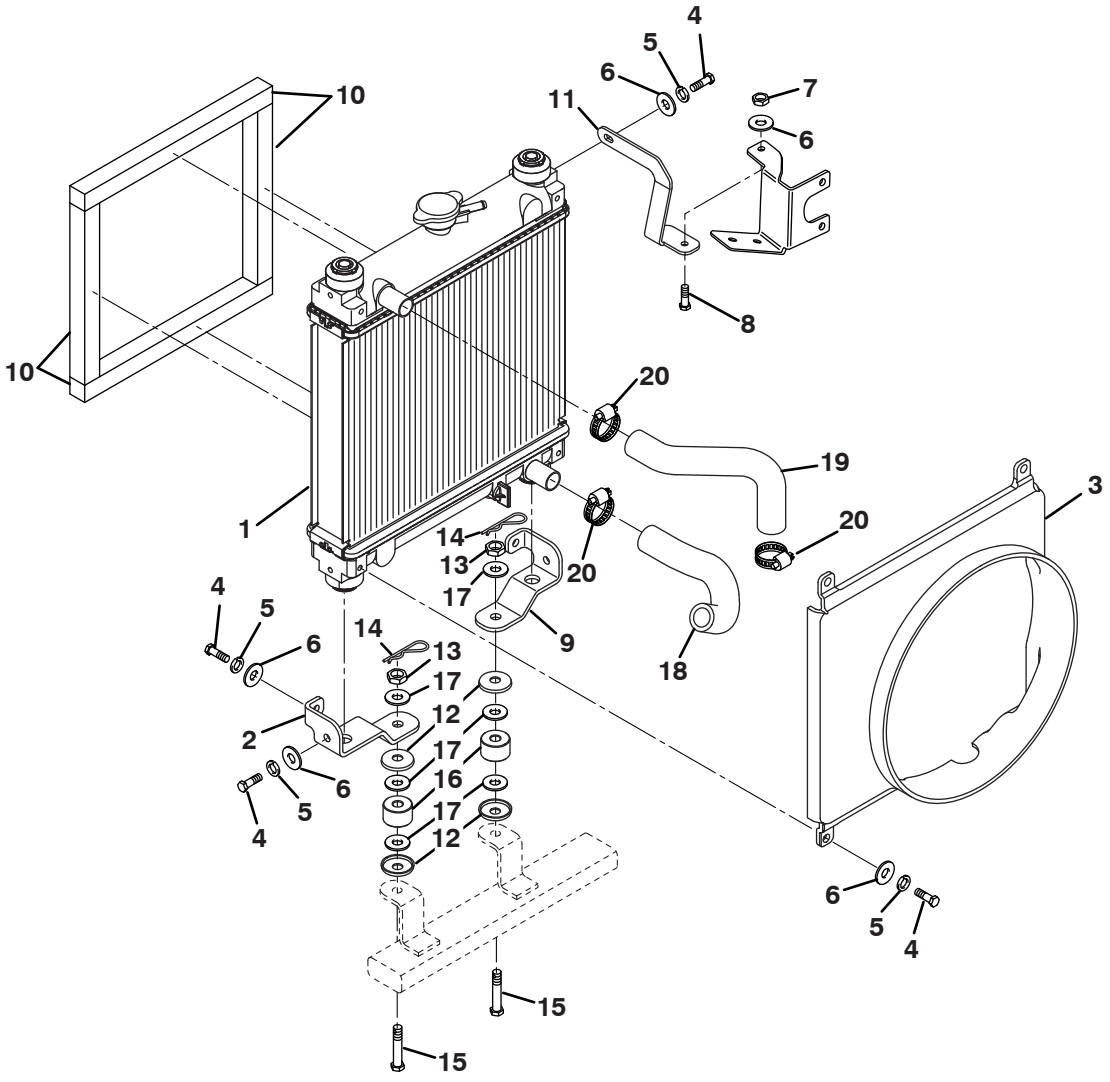
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 554896 | 1 | Radiator | |
| 2 | 1002101.7 | 1 | Front Shroud | |
| 3 | 5001666 | 1 | Rear Shroud | |
| 4 | 355174 | 8 | Bolt, M6-1 x 12mm | |
| 5 | 446130 | 10 | Lockwasher, 1/4 Hvy | |
| 6 | 452004 | 8 | Flat Washer, 1/4 | |
| 7 | 1001964.7 | 7 | Front Slide Shroud | |
| 8 | 3004187 | AR | Weather Strip | |
| 9 | 557578 | 1 | Lower Hose | |
| 10 | 557563 | 1 | Hose Clamp | |
| 11 | 554244 | 2 | Bolt | |
| 12 | 553887 | 4 | Cup Washer | |
| 13 | 553886 | 2 | Cushion | |
| 14 | 452008 | AR | Flat Washer, 3/8 | |
| 15 | 553859 | 2 | Snap Pin | |
| 16 | 554241 | 1 | Upper Hose | |
| 17 | 554083 | 3 | Hose Clamp | |
| 18 | 2810662 | 1 | Radiator Support | |
| 19 | 3006127 | 1 | Iso-Mount, Radiator | |
| 20 | REF | 1 | Bracket, Solenoid | See 9.1 |
| 21 | 443102 | 2 | Nut, 1/4-20 Hex | |

> Change from previous revision

Serial No. 4996 and Up

## 16.2 Radiator Installation

**Diesel Engine**

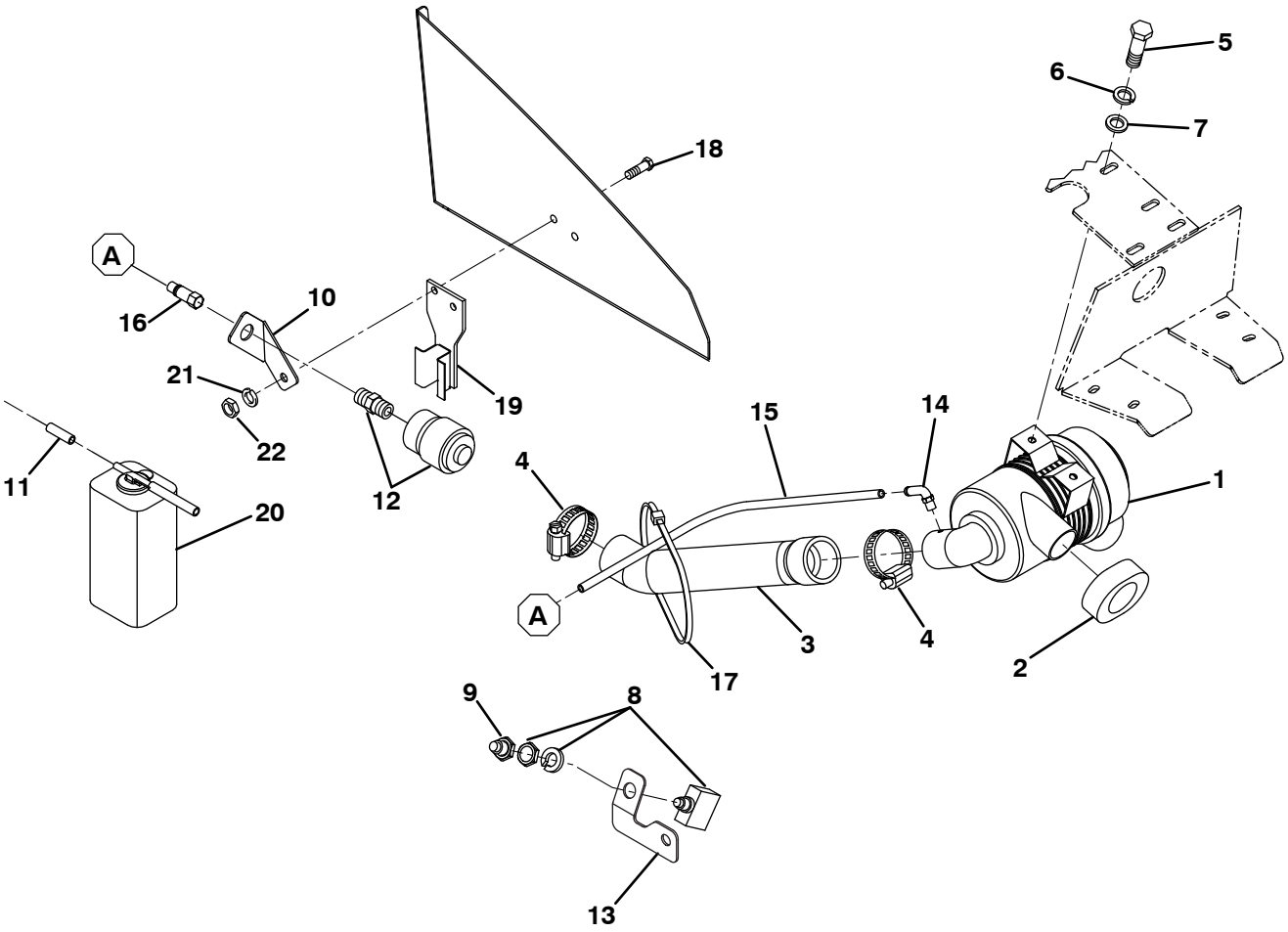


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4141036 | 1 | Radiator | |
| 2 | 4150417 | 1 | Bracket, Radiator Mount | |
| 3 | 4140846 | 1 | Fan Shroud | |
| 4 | 362535 | 9 | Bolt, M6-1 x 16mm | |
| 5 | 446130 | 9 | Lockwasher, 1/4 Hvy | |
| 6 | 452004 | 10 | Flat Washer, 1/4 | |
| 7 | 444708 | 1 | Locknut, 1/4-20 Hex Center | |
| 8 | 400108 | 1 | Screw, 1/4-20 x 3/4” Hex Head | |
| 9 | 4150418 | 1 | Bracket, Radiator Mount | |
| 10 | 4149217 | AR | Weather Strip | |
| 11 | 4140788 | 1 | Bracket, Upper Radiator Mount | |
| 12 | 553887 | 4 | Washer, Cup | |
| 13 | 443810 | 2 | Nut, 3/8-16 Hex Jam | |
| 14 | 460312 | 2 | Hain Pin | |
| 15 | 4150598 | 2 | Screw, 3/8-16 x 2” Hex Head | Hole in end for hairpin |
| 16 | 553886 | 2 | Cushion, Radiator | |
| 17 | 452008 | 6 | Flat Washer, 3/8 | |
| | 4141392 | 1 | Radiator Hose Kit | |
| 18 | N/S | 1 | • Lower Hose | |
| 19 | N/S | 1 | • Upper Hose | |
| 20 | 319914 | 4 | • Hose Clamp | |

> Change from previous revision

## 17.1 Air Filter and Circuit Breaker

Serial No. All

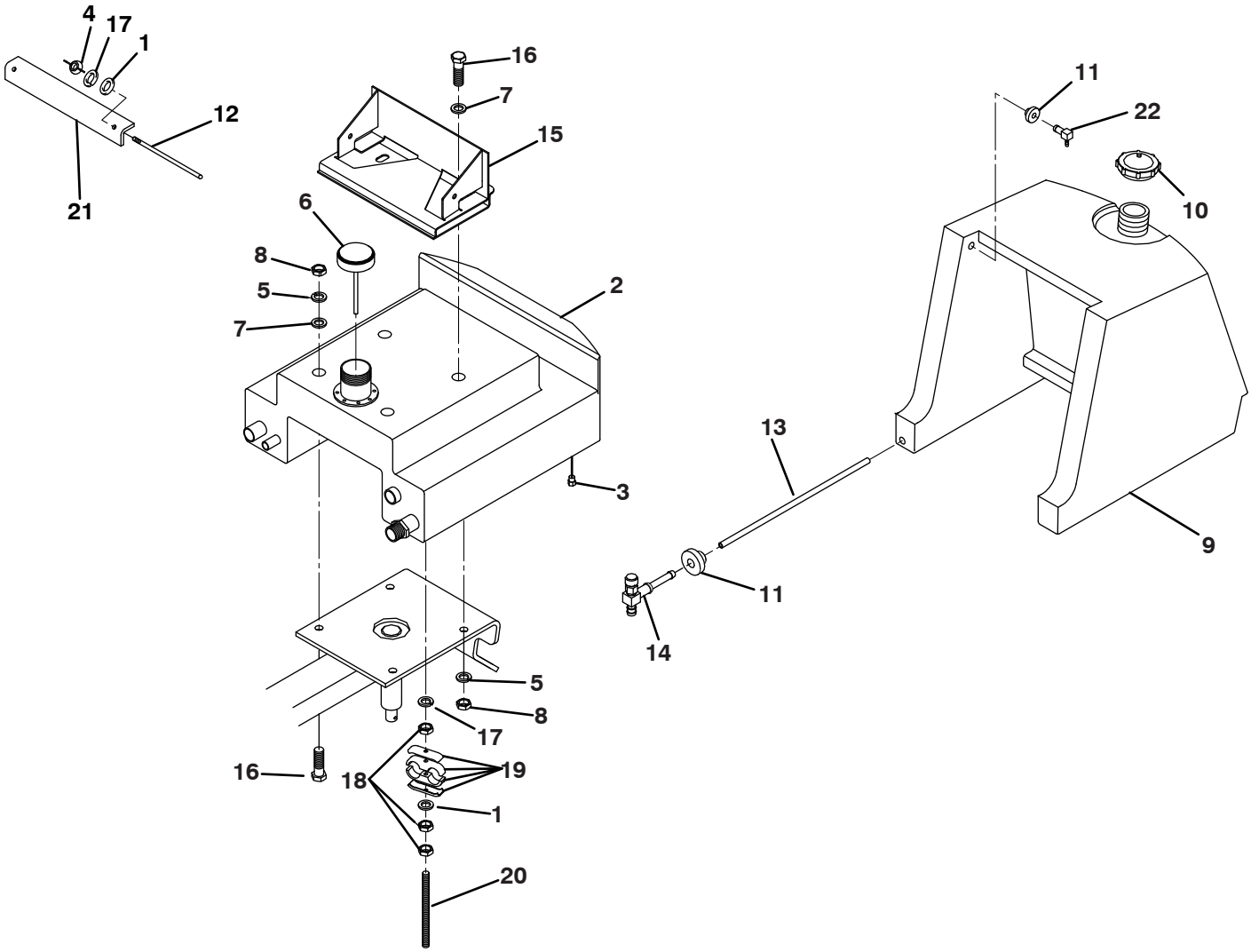


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1001354 | 1 | Air Cleaner | |
| | 5000913 | 1 | • Air Cleaner Element | |
| | 5000912 | 1 | • Cover | |
| | 5000914 | 1 | • Valve | |
| 2 | 3002862 | 1 | Foam Ring | |
| 3 | 3002863 | 1 | Air Intake Hose | |
| 4 | 326112 | 2 | Hose Clamp | |
| 5 | 361005 | 2 | Bolt, M8-1.25 x 25mm | |
| 6 | 446136 | 2 | Lockwasher, 5/16 Hvy | |
| 7 | 452006 | 2 | Flat Washer, 5/16 | |
| 8 | 3000359 | 1 | Circuit Breaker, 50 Amp | Reference **CB1** |
| 9 | 364774 | 1 | Protector Boot | |
| 10 | 3004256 | 1 | Bracket | |
| 11 | 364703 | 1 | Over Flow Hose, 30” Long | |
| 12 | 1001752 | 1 | Air Cleaner Indicator/Adapter | |
| 13 | REF | 1 | Bracket, Circuit Breaker | See 14.1 |
| 14 | 3004253 | 1 | Male Elbow | |
| 15 | 5002126 | 1 | Tube | |
| 16 | 3004333 | 1 | Bulkhead Fitting | |
| 17 | 473142 | 1 | Nylon Tie | |
| 18 | 400260 | 2 | Screw, 3/8-16 x 7/8” Hex Head | |
| 19 | 557580 | 1 | Tank Support | |
| 20 | 553926 | 1 | Reserve Tank | |
| 21 | 446142 | 2 | Lockwasher, 3/8 Hvy | |
| 22 | 443110 | 2 | Nut, 3/8-16 Hex | |

> Change from previous revision

## 18.1 Tanks

Serial No. All

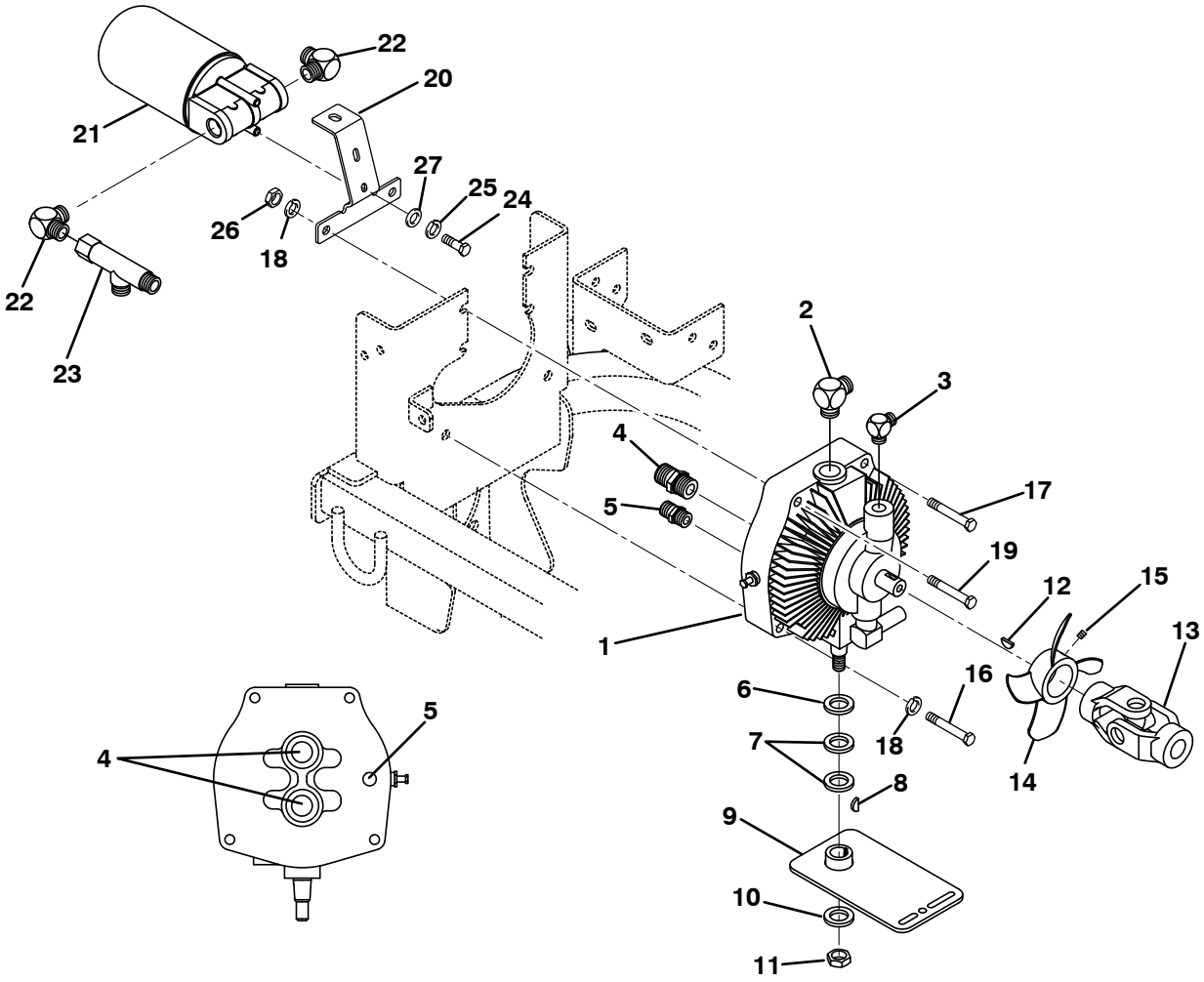


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 452004 | 3 | Flat Washer, 1/4 | |
| 2 | 1002019.6 | 1 | Hydraulic Oil Tank | |
| 3 | 3002397 | 1 | Magnetic Plug | |
| 4 | 445612 | 2 | Nut, 1/4-20 Wing | |
| 5 | 446154 | 4 | Lockwasher, 1/2 Hvy | |
| 6 | 2809688 | 1 | Fill Breather Cap | |
| | 5003624 | 1 | • Gasket | |
| 7 | 344132 | 4 | Flat Washer | |
| 8 | 443118 | 4 | Nut, 1/2-13 Hex | |
| 9 | 1001134 | 1 | Fuel Tank | |
| 10 | 4106900 | 1 | Fuel Cap | |
| 11 | 361117 | 2 | Fuel Tank Bushing | |
| 12 | 346361 | 2 | Battery Hold Down | |
| 13 | 325822 | 1 | Fuel Line, 14” x 1/4” I.D. | |
| 14 | 1001311 | 1 | Fuel Shut Off Valve | |
| 15 | 1000973 | 1 | Battery Bracket | |
| 16 | 400424 | 4 | Screw, 1/2-13 x 4-1/2” Hex Head | |
| 17 | 446130 | 3 | Lockwasher, 1/4 Hvy | |
| 18 | 443102 | 3 | Nut, 1/4-20 Hex | |
| 19 | 3003473 | 1 | Hose Clamp | |
| 20 | 3003665 | 1 | Stud, 1/4-20 x 2-3/4” | |
| 21 | 3003444 | 1 | Battery Retainer | |
| 22 | 361748 | 1 | Valve Overflow | |

> Change from previous revision

## 19.1 Hydro Pump and Charge Filter

Serial No. All

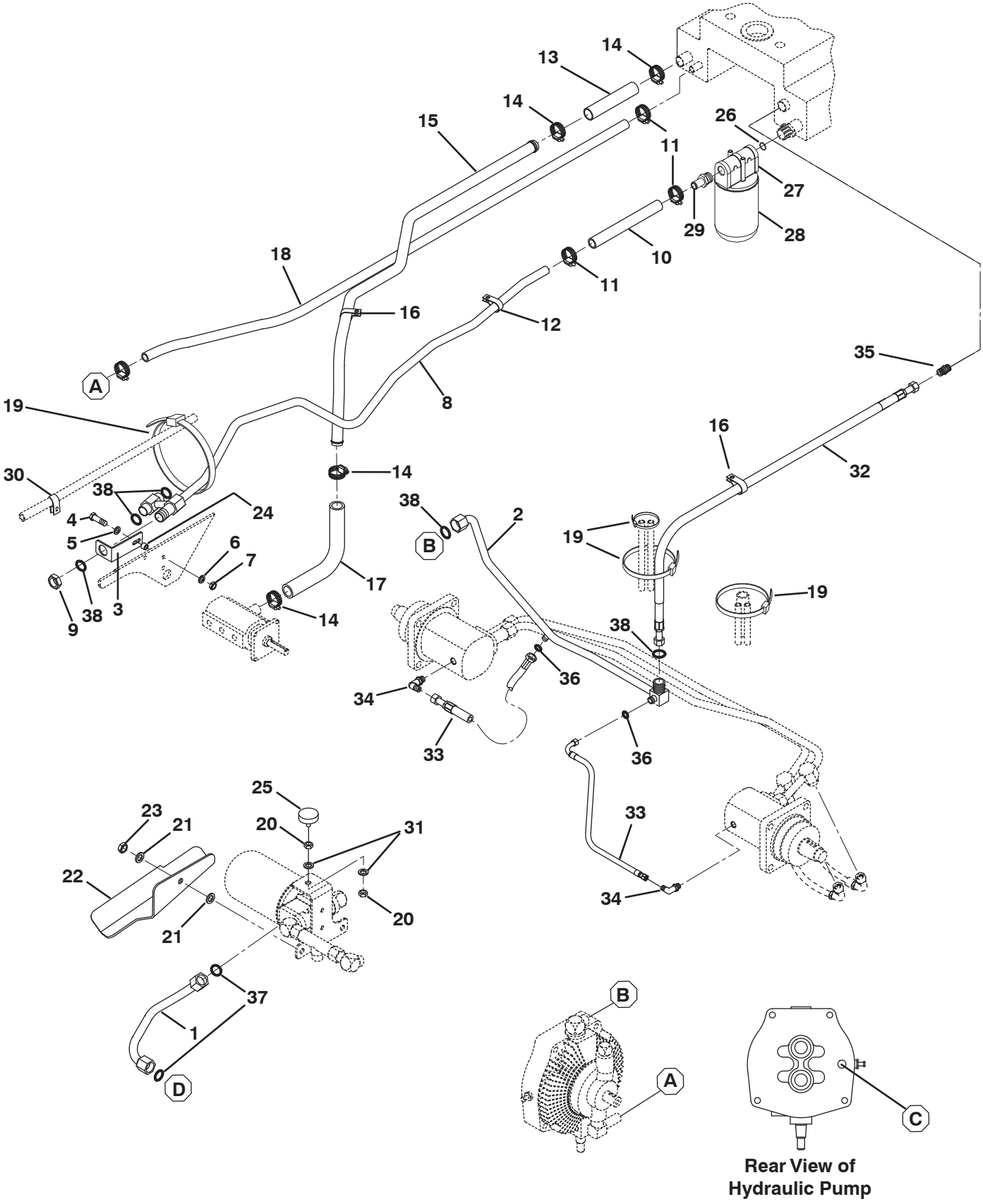


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4120764 | 1 | Hydraulic Pump | Serial No. 1601 ~ 4250, See 33.1 |
| 1 | 4129590 | 1 | Hydraulic Pump | Serial No. 4251 and Up, See 33.1 |
| 1 | | | | |
| 2 | 340070 | 1 | Adapter, 90° | |
| 3 | 340061 | 1 | Adapter, 90° | |
| 4 | 339989 | 2 | Adapter, Straight | |
| 5 | 339983 | 1 | Adapter, Straight | |
| 6 | 307374 | 1 | Washer | |
| 7 | 454001 | 2 | Spring Washer | |
| 8 | 463005 | 1 | Key, 1/8 x 5/8” Woodruff | |
| 9 | 1004900 | 1 | Traction Arm | |
| 10 | 453017 | 1 | Flat Washer, 1/2 | |
| 11 | 444758 | 1 | Locknut, 1/2-13 Center | |
| 12 | 463109 | 1 | Key, 3/16 x 5/8” Morton | Serial No. 1601 ~ 4250 |
| 12 | 463113 | 1 | Key, 3/16 x 3/4” Morton | Serial No. 4251 and Up |
| 13 | 1001630 | 1 | Universal Joint | Serial No. 1601 ~ 4250 |
| 13 | 4129589 | 1 | Universal Joint | Serial No. 4251 and Up |
| | 554663 | 1 | • Cross and Bearing Kit | |
| 14 | 4129588 | 1 | Fan | |
| 15 | 412020 | 2 | Screw, 5/16-18 x 1” Set | |
| 16 | 400272 | 2 | Screw, 3/8-16 x 2-1/4” Hex Head | |
| 17 | 400274 | 1 | Screw, 3/8-16 x 2-1/2” Hex Head | |
| 18 | 446142 | 4 | Lockwasher, 3/8 Hvy | |
| 19 | 400276 | 1 | Screw, 3/8-16 x 3” Hex Head | |
| 20 | 2810439 | 1 | Bracket | |
| 21 | 1001148 | 1 | Filter Assembly | |
| | 549597 | 1 | • Filter Cartridge | |
| 22 | 340068 | 2 | Adapter, 90° | |
| 23 | 340120 | 1 | Adapter, Tee | |
| 24 | 400108 | 2 | Screw, 1/4-20 x 3/4” Hex Head | |
| 25 | 446130 | 2 | Lockwasher, 1/4 Hvy | |
| 26 | 443110 | 2 | Nut, 3/8-16 Hex | |
| 27 | 452004 | 2 | Flat Washer, 1/4 | |

> Change from previous revision

## 20.1 Pump Suction and Return Hydraulics

Serial No. All



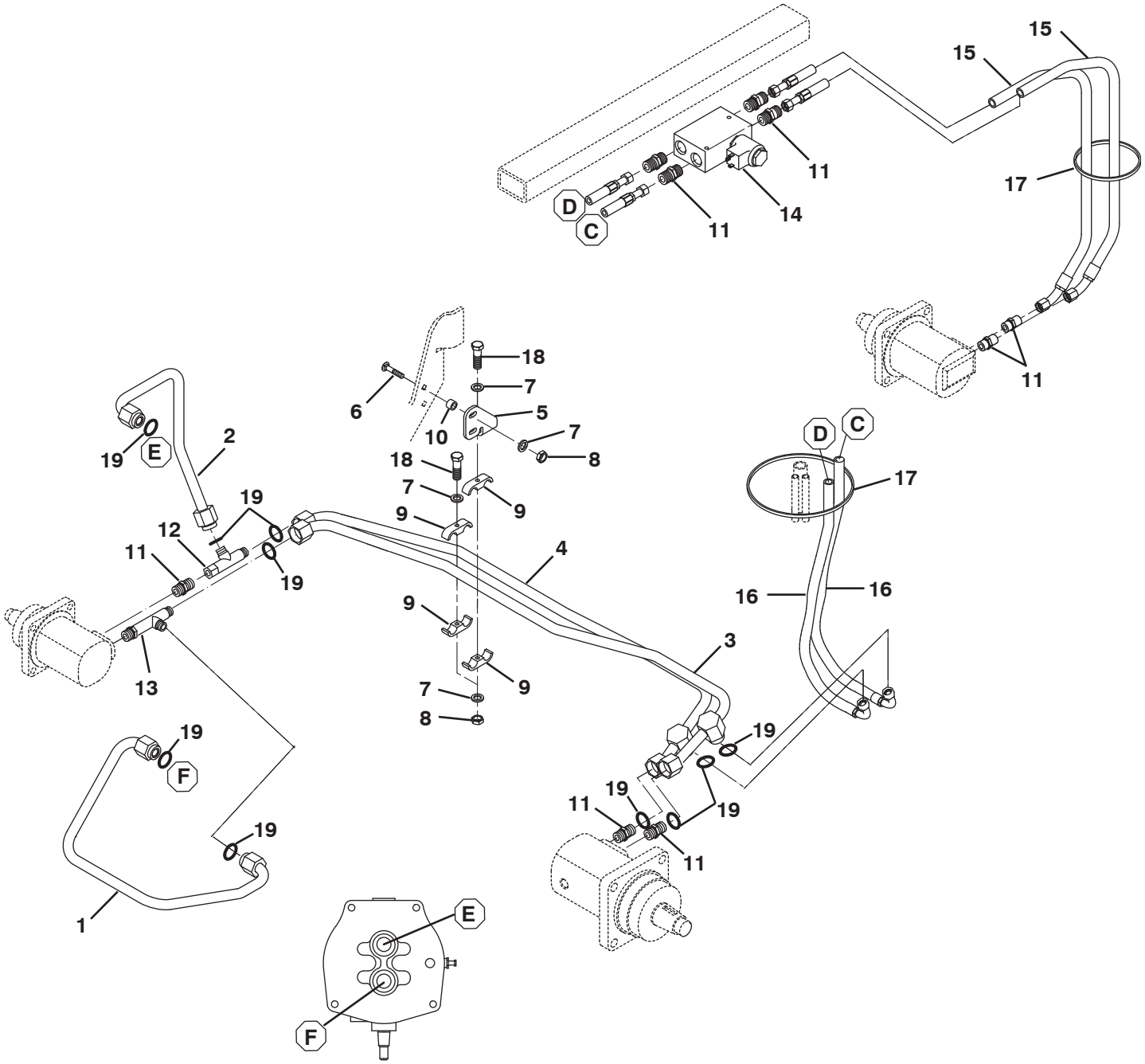

**Rear View of Hydraulic Pump**

| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1001372 | 1 | Tube, Filter to Pump | |
| 2 | 2809725 | 1 | Tube, Pump Return | |
| 3 | 3004182 | 1 | Angle | |
| 4 | 400188 | 2 | Screw, 5/16-18 x 1” Hex Head | |
| 5 | 452006 | 2 | Flat Washer, 5/16 | |
| 6 | 446136 | 2 | Lockwasher, 5/16 Hvy | |
| 7 | 443106 | 2 | Nut, 5/16-18 Hex | |
| 8 | 1001147 | 1 | Tube, Reel Motor Return | |
| 9 | 339963 | 1 | ORS Bulkhead Locknut | |
| 10 | 3003218 | 1 | Hose | |
| 11 | 108094-02 | 4 | Clamp | |
| 12 | 345671 | 1 | Hose Clamp | |
| 13 | 3003113 | 1 | Hose | |
| 14 | 367458 | 4 | Hose Clamp | |
| 15 | 3003115 | 1 | Tube, Suction | |
| 16 | 354080 | 3 | Hose Clamp | |
| 17 | 3003114 | 1 | Formed Hose | |
| 18 | 3003219 | 1 | Hose, Suction | |
| 19 | 473142 | 4 | Nylon Tie | |
| 20 | 443810 | 2 | Nut, 3/8-16 Hex Jam | |
| 21 | 452008 | 2 | Flat Washer, 3/8 | |
| 22 | 3003223 | 1 | Drain Shield | |
| 23 | 444762 | 1 | Locknut, 3/8-16 Center | |
| 24 | 3004410 | 1 | Spacer | |
| 25 | 361723 | 1 | Rubber Stop | |
| 26 | 339900 | 1 | O-Ring | |
| 27 | 1001148 | 1 | Filter | |
| 28 | 549597 | 1 | • Filter Element | |
| 29 | 3003256 | 1 | Adapter, Beaded Tube | |
| 30 | 361064 | 1 | Clamp Hose | |
| 31 | 453011 | 2 | Washer, 3/8 Flat | |
| 32 | 1001503 | 1 | Hydro Return Hose | |
| 33 | 1001488 | 2 | Traction Motor Drain Hose | |
| 34 | 340055 | 4 | Adaptor, 90° | |
| 35 | 339989 | 1 | Adaptor, Straight | |
| 36 | 339908 | 2 | O-Ring, #4 ORFS | |
| 37 | 339910 | 2 | O-Ring, #8 ORFS | |
| 38 | 339912 | 5 | O-Ring, #10 ORFS | |

> Change from previous revision

## 21.1 Traction Hydraulics

Serial No. All

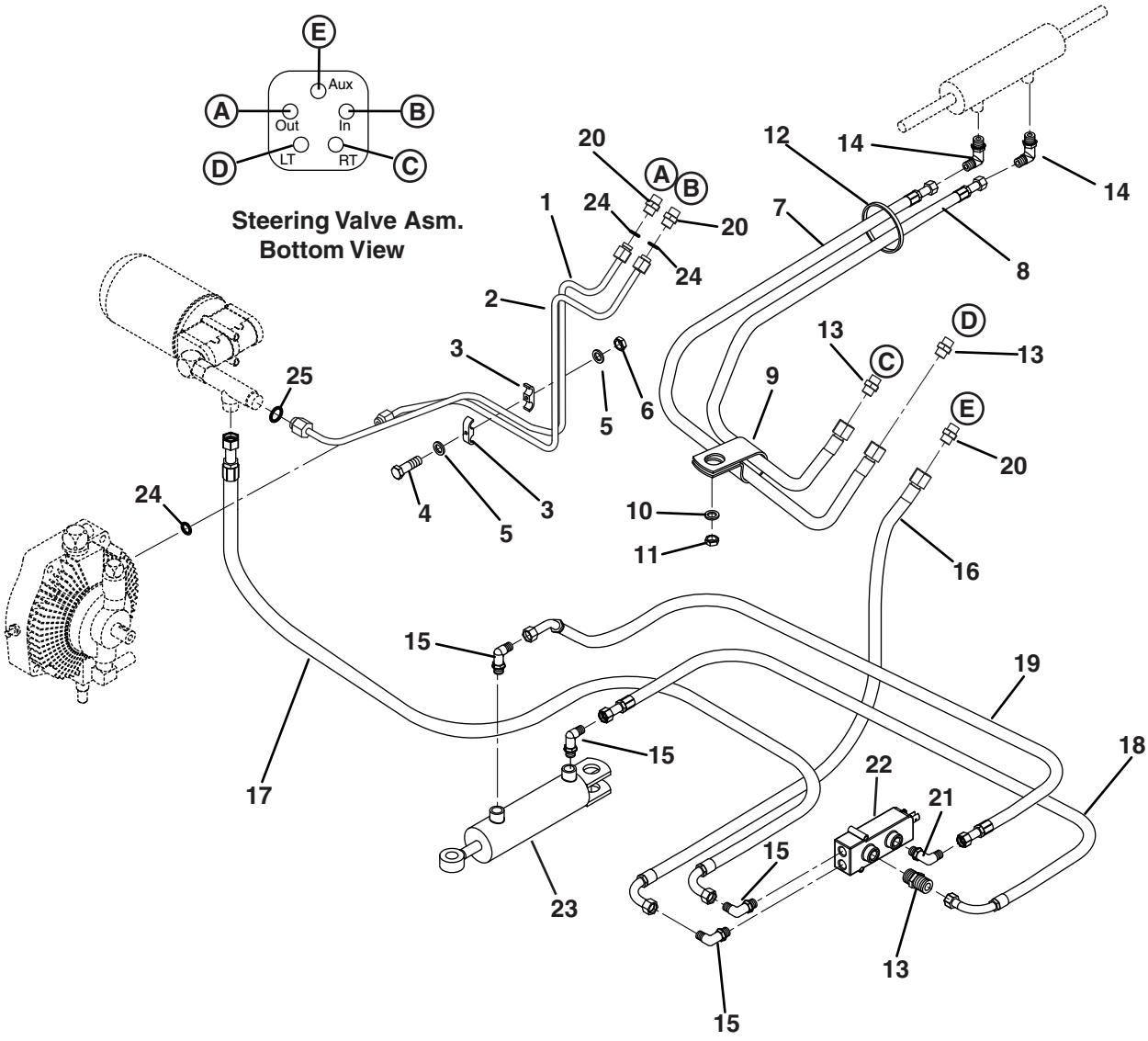


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 2810603 | 1 | Tube, Pump to Motor | |
| 2 | 2810604 | 1 | Tube, Pump to Motor | |
| 3 | 2810602 | 1 | Tube, R. Motor to L. Motor | |
| 4 | 2810601 | 1 | Tube, R. Motor to L. Motor | |
| 5 | 3003242.7 | 1 | Bracket | |
| 6 | 441668 | 2 | Carriage Bolt, 1/4-20 x 1-1/4” | |
| 7 | 452004 | 6 | Flat Washer, 1/4 | |
| 8 | 444708 | 4 | Locknut, 1/4-20 Center | |
| 9 | 3003110 | 2 | Clamp | |
| 10 | 3004410 | 1 | Spacer | |
| 11 | 339989 | 11 | Adapter, Straight | |
| 12 | 340121 | 1 | Fitting Tee | |
| 13 | 340265 | 1 | Adapter, Tee | |
| 14 | 4111942 | 1 | 3WD Valve | See 34.1 for Service Parts |
| 15 | 1001496 | 2 | Rear Motor Hose | |
| 16 | 1001495 | 2 | Traction Hose | |
| 17 | 473142 | 4 | Nylon Tie | |
| 18 | 400116 | 2 | Screw, 1/4-20 x 1-1/2” Hex Head | |
| 19 | 339911 | 10 | O-Ring, #10 ORFS | |

> Change from previous revision

## 21.2 Steering and Lift Hydraulics

Serial No. All

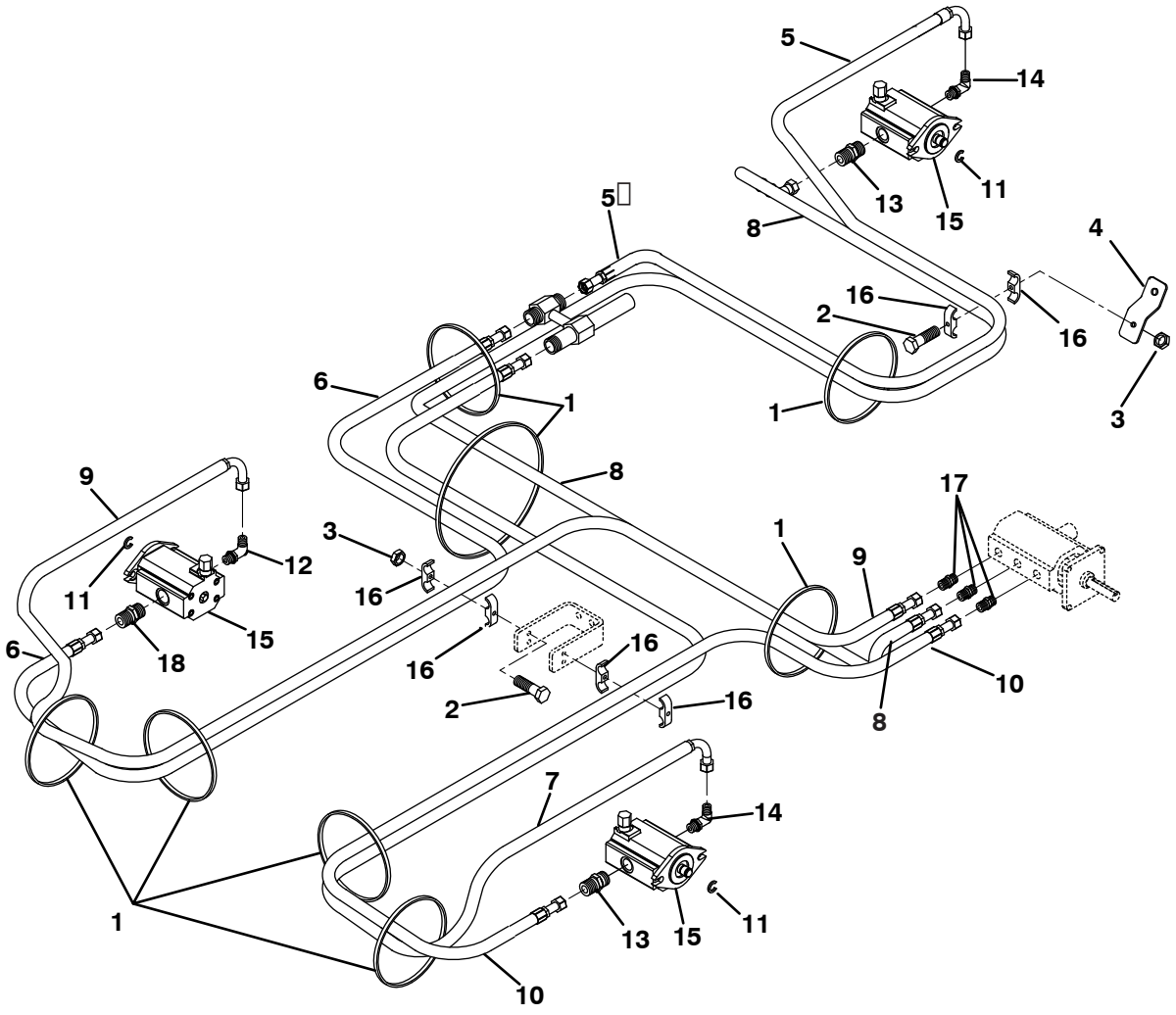


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1002944 | 1 | Tube, Steering Valve to Filter | |
| 2 | 2811063 | 1 | Tube, Steering Valve to Pump | |
| 3 | 364221 | 1 | Clamp | |
| 4 | 400114 | 1 | Screw, 1/4-20 x 1-1/4” Hex Head | |
| 5 | 452004 | 2 | Flat Washer, 1/4 | |
| 6 | 444708 | 1 | Locknut, 1/4-20 Center | |
| 7 | 1002942 | 1 | Left Steering Hose | |
| 8 | 1002941 | 1 | Right Steering Hose | |
| 9 | 354080 | 2 | Hose Clamp | |
| 10 | 446136 | 1 | Lockwasher, 5/16 Hvy | |
| 11 | 443106 | 1 | Nut, 5/16-18 Hex | |
| 12 | 473142 | 4 | Nylon Tie | |
| 13 | 339974 | 3 | Adapter Straight | |
| 14 | 340057 | 2 | Adapter, 90° | |
| 15 | 340061 | 4 | Adapter, 90° | |
| 16 | 1002940 | 1 | Lift Cylinder Hose | |
| 17 | 1001500 | 1 | Lift Cylinder Hose | |
| 18 | 1001502 | 1 | Lift Valve Hose | |
| 19 | 1001501 | 1 | Lift Valve Hose | |
| 20 | 339979 | 3 | Adapter Straight | |
| 21 | 340088 | 1 | Adapter, 90° | |
| 22 | 1001356 | 1 | Lift Valve | |
| | 5001419 | 1 | • Seal Kit | |
| 23 | 122759 | 1 | Hydraulic Cylinder | |
| | 554331 | 1 | • Seal Kit | |
| 24 | 339909 | 3 | O-Ring, #6 ORFS | |
| 25 | 339910 | 1 | O-Ring, #10 ORFS | |

> Change from previous revision

## 22.1 Reel Hydraulics

Serial No. All

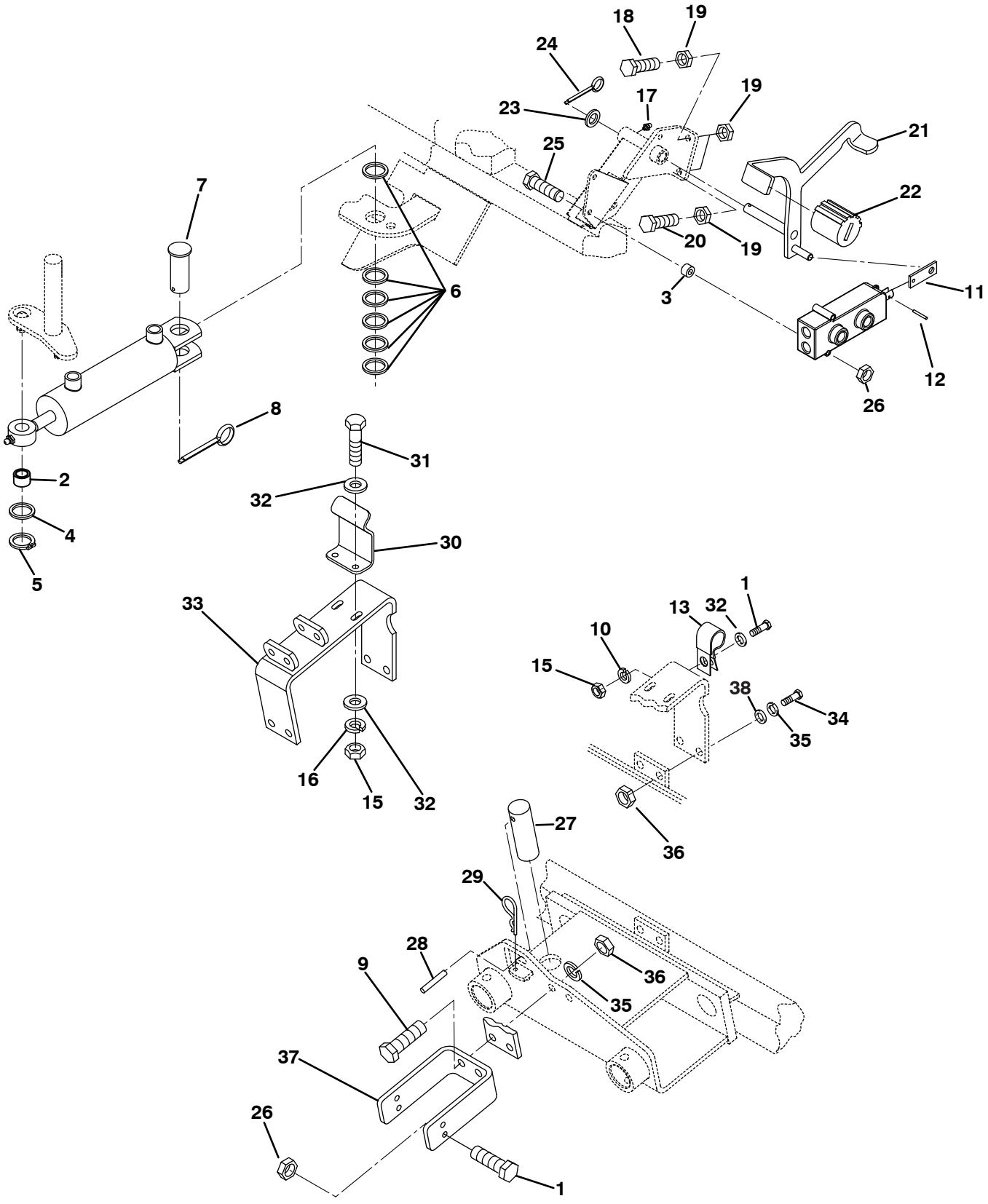


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 473142 | 8 | Nylon Tie | |
| 2 | 400120 | 3 | Screw, 1/4-20 x 2” Hex Hd | |
| 3 | 444708 | 3 | Locknut, 1/4-20 Center | |
| 4 | 3003323.7 | 1 | Bracket | |
| 5 | 1001491 | 1 | Center Reel Motor Return Hose | |
| 6 | 1001490 | 1 | Right Reel Motor Return Hose | |
| 7 | 1001489 | 1 | Left Reel Motor Return Hose | |
| 8 | 1001493 | 1 | Center Reel Motor Pressure Hose | |
| 9 | 1001494 | 1 | Right Reel Motor Pressure Hose | |
| 10 | 1001492 | 1 | Left Reel Motor Pressure Hose | |
| 11 | 2810171 | 3 | Snap Ring | |
| 12 | 340062 | 1 | Adapter, 90° | |
| 13 | 339980 | 2 | Adapter, Straight | |
| 14 | 340070 | 2 | Adapter, 90° | |
| 15 | 1002603 | 3 | Reel Motor | See 32.1 for Service Parts |
| 16 | 3003473 | 3 | Clamp | |
| 17 | 339979 | 3 | Adapter Straight | |
| 18 | 339989 | 1 | Adapter, Straight | |

> Change from previous revision

## 23.1 Reel Lift

Serial No. All

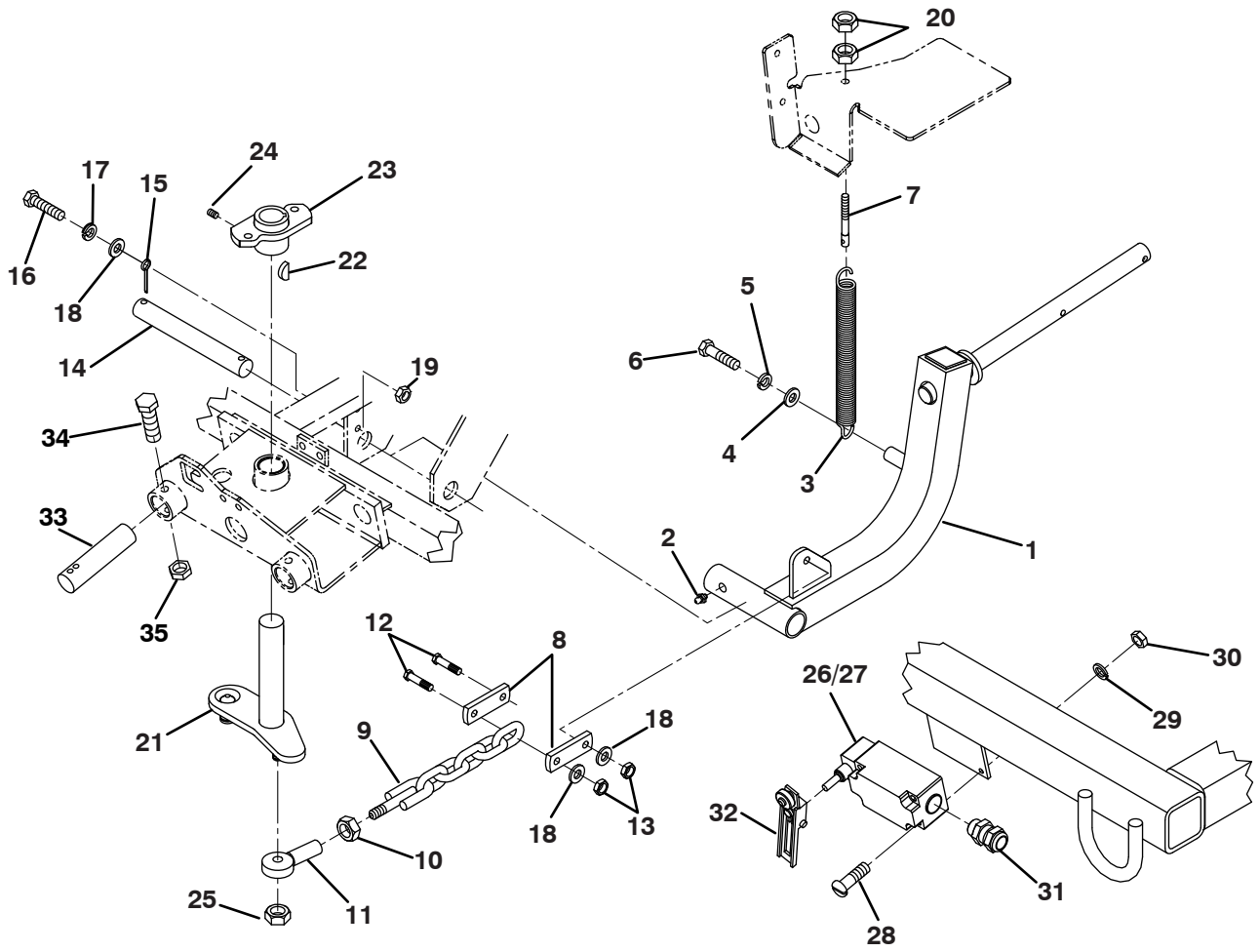


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 400108 | 3 | Screw, 1/4-20 x 3/4” Hex Head | |
| 2 | 554330 | 1 | Bronze Bushing | Included with cylinder |
| 3 | 452006 | 2 | Flat Washer, 3/8 | |
| 4 | 307374 | 1 | Washer | |
| 5 | 458038 | 1 | Retaining Ring | |
| 6 | 345700 | 6 | Washer | |
| 7 | 364238 | 1 | Cylinder Pin | |
| 8 | 460052 | 1 | Cotter Pin, 3/16 x 1-1/2” | |
| 9 | 400264 | 2 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 10 | 446128 | 1 | Lockwasher, 1/4 | |
| 11 | 3002234.7 | 1 | Plate | |
| 12 | 461379 | 1 | Roll Pin, 3/16 x 1/2” | |
| 13 | 345671 | 1 | Hose Clamp | |
| 14 | 473142 | 11 | Nylon Tie | Not Shown |
| 15 | 443102 | 5 | Nut, 1/4-20 Hex | |
| 16 | 446130 | 2 | Lockwasher, 1/4 Hvy | |
| 17 | 471214 | 2 | Grease Fitting | |
| 18 | 400192 | 1 | Screw, 5/16-18 x 1-1/2” Hex Head | |
| 19 | 443106 | 4 | Nut, 5/16-18 Hex | |
| 20 | 400190 | 1 | Screw, 5/16-18 x 1-1/4” Hex Head | |
| 21 | 1002606.7 | 1 | Lift Pedal | |
| 22 | 3003474 | 1 | Pedal Grip | |
| 23 | 453017 | 1 | Flat Washer, 1/2 | |
| 24 | 460028 | 1 | Cotter Pin, 1/8 x 1” | |
| 25 | 400118 | 2 | Screw, 1/4-20 x 1-3/4” Hex Head | |
| 26 | 444708 | 4 | Locknut, 1/4-20 Center | |
| 27 | 3003035 | 1 | Pin | |
| 28 | 461418 | 1 | Roll Pin, 1/4-20 x 3-1/2” | |
| 29 | 460335 | 1 | Spring Clip Pin, 1/8 | |
| 30 | 3004679 | 2 | Hood Centering Bracket | |
| 31 | 400112 | 2 | Screw, 1/4-20 x 1” Hex Head | |
| 32 | 452004 | 5 | Flat Washer, 1/4 | |
| 33 | 1001176.7 | 1 | Tab Spring Mount | |
| 34 | 400264 | 2 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 35 | 446142 | 4 | Lockwasher, 3/8 Hvy | |
| 36 | 443110 | 4 | Nut, 3/8-16 Hex | |
| 37 | 3002630.7 | 1 | Hose Bracket | |

> Change from previous revision

## 24.1 Rear Lift Arm

Serial No. All

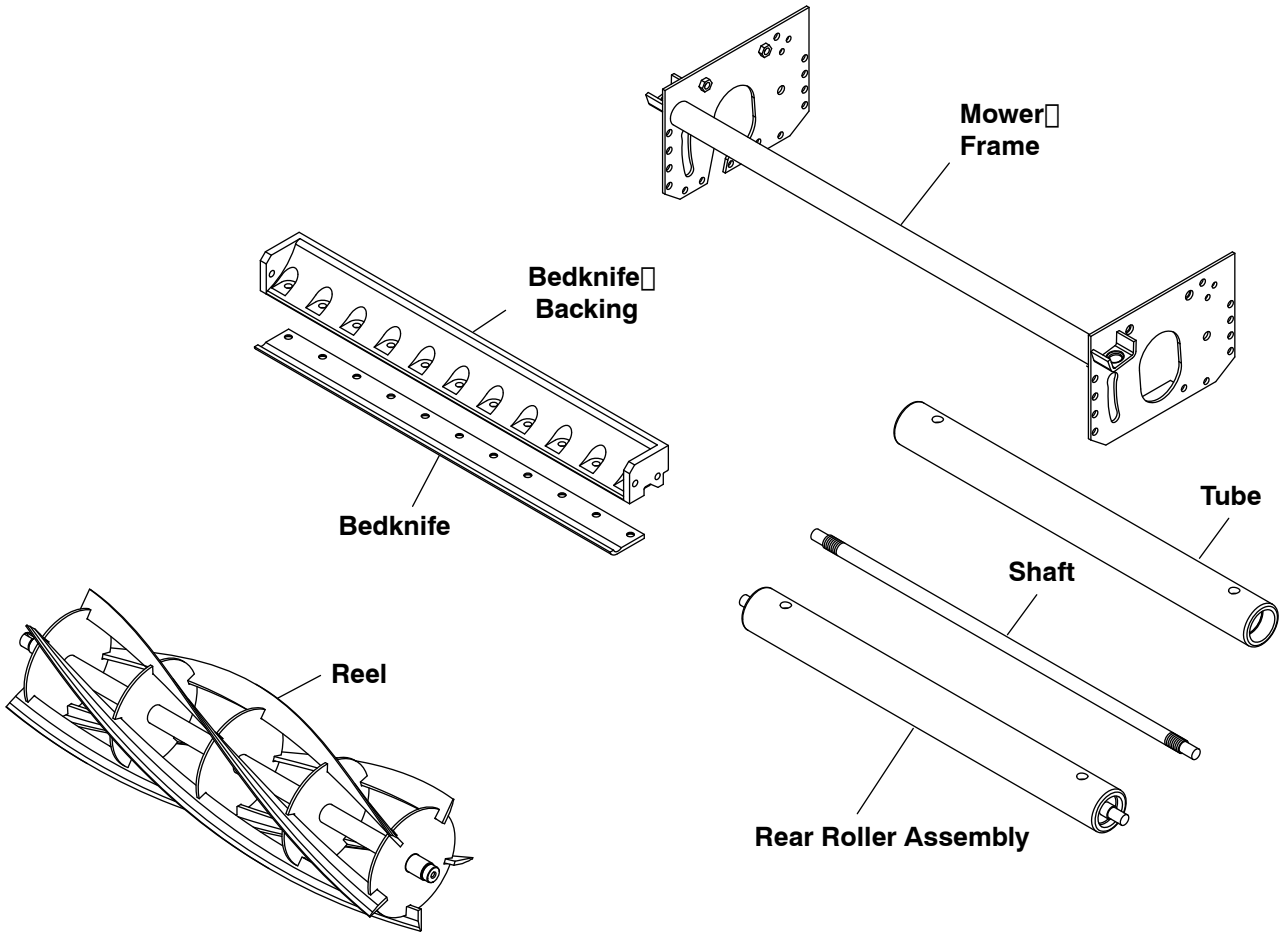


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 1001271.7 | 1 | Rear Lift Arm | |
| 2 | 471216 | 1 | Grease Fitting | |
| 3 | 364149.7 | 1 | Extension Spring | |
| 4 | 452008 | 1 | Flat Washer, 3/8 | |
| 5 | 446142 | 1 | Lockwasher, 3/8 Hvy | |
| 6 | 400262 | 1 | Screw, 3/8-16 x 1” Hex Head | |
| 7 | 3003754 | 1 | J Bolt | |
| 8 | 3001905.7 | 2 | Plate | |
| 9 | 1000956.7 | 1 | Chain | |
| 10 | 443820 | 1 | Nut, 1/2-20 Jam | |
| 11 | 364234 | 1 | Rod End | |
| 12 | 3006409 | 2 | Bolt, 3/8-16 x 1-1/2” Grade 8 | |
| 13 | 445799 | 2 | Locknut, 3/8-16 Center | |
| 14 | 2809741 | 1 | Pivot Pin | |
| 15 | 460096 | 1 | Cotter Pin, 5/16 x 1-3/4” | |
| 16 | 400188 | 1 | Screw, 5/16-18 x 1” Hex Head | |
| 17 | 446136 | 1 | Lockwasher, 5/16 Hvy | |
| 18 | 452006 | 3 | Flat Washer, 5/16 | |
| 19 | 443106 | 1 | Nut, 5/16-18 Hex | |
| 20 | 443110 | 2 | Nut, 3/8-16 Hex | |
| 21 | 1001258.7 | 1 | Crank Bottom | |
| 22 | 463040 | 1 | Key, 1/4 x 1-1/4” Woodruff | |
| 23 | 1001259.7 | 1 | Lift Top Crank | |
| 24 | 415519 | 1 | Screw, 5/16-18 x 3/8” Set | |
| 25 | 444780 | 1 | Locknut, 1/2-20 | |
| 26 | 5000183 | 1 | Limit Switch | Reference **SW4** |
| 27 | 5000184 | 1 | Operator Head | |
| 28 | 402132 | 2 | Screw, #10-24 x 1-3/4” Round Head | |
| 29 | 446118 | 2 | Lockwasher, #10 Hvy | |
| 30 | 444310 | 2 | Nut, #10-24 Hex | |
| 31 | 364694 | 1 | Cable Connector | |
| 32 | 3001078 | 1 | Actuator Head | |
| 33 | 3002430 | 2 | Pin | |
| 34 | 400272 | 2 | Screw, 3/8-16 x 2-1/4” Hex Head | |
| 35 | 444762 | 2 | Locknut, 3/8-16 Center | |

> Change from previous revision

## 25.1 Reels

Serial No. All

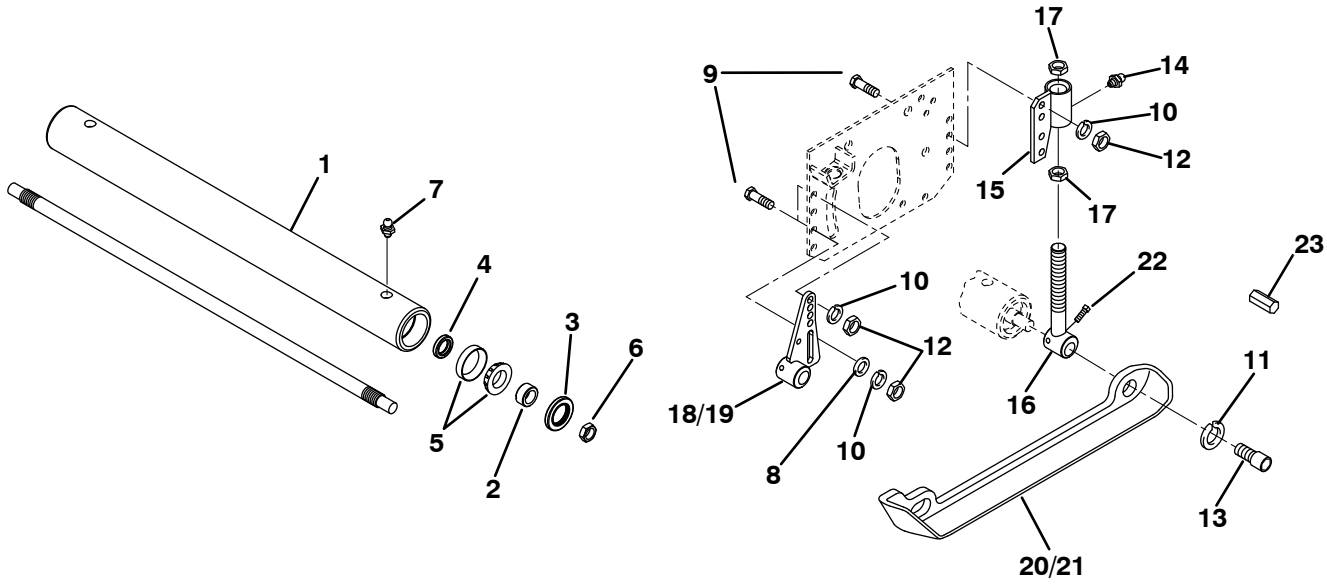



| Product Number | Size In Inches | No. of Blades | Bedknife | Bedknife Backing | Rear Roller | | | Location | | | Reel Part No. | Mower Frame |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Complete | Tube | Shaft | Left | Center | Right | | |
| 67114 | 26” | 7 | 554284 | 5000616 | 132639 | 5002831 | 3003415 | ✔ | | | 5002087 | 1001643 |
| 67115 | | | | | | | | | | ✔ | 5002088 | 1001643 |
| 67116 | | | | | | | | | ✔ | | 5002087 | 1001643 |
| 67123 | 30” | 7 | 503550 | 5000617 | 132640 | 5002832 | 3003414 | ✔ | | | 5002089 | 1001642 |
| 67124 | | | | | | | | | | ✔ | 5002090 | 1001642 |
| 67125 | | | | | | | | | ✔ | | 5002089 | 1001642 |

> Change from previous revision

Serial No. All

## 26.1 Roller Brackets and Skids

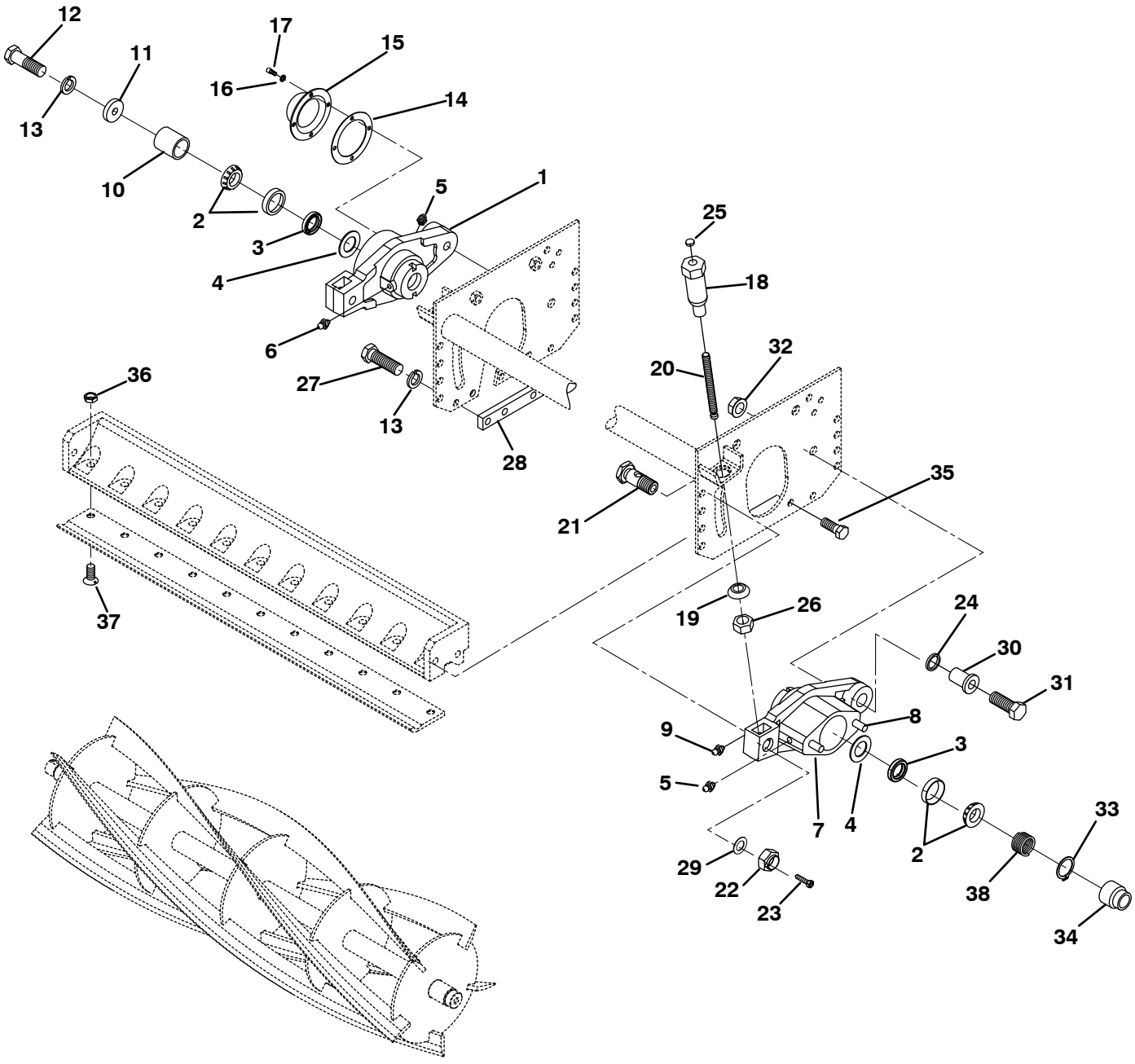



| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | REF | 1 | Rear Roller | |
| 2 | 3005156 | 2 | • Wear Sleeve | |
| 3 | 3004882 | 2 | • Oil Seal | |
| 4 | 338647 | 2 | • Oil Seal | |
| 5 | 500534 | 2 | • Bearing, Cup and Cone | |
| 6 | 367029 | 2 | • Nut | |
| 7 | 471214 | 2 | • Grease Fitting | |
| 8 | 366653 | 2 | Washer | |
| 9 | 400264 | 8 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 10 | 446142 | 8 | Lockwasher, 3/8 Hvy | |
| 11 | 446174 | 4 | Lockwasher, 3/4 Light | |
| 12 | 443110 | 8 | Nut, 3/8-16 Hex | |
| 13 | 434002 | 4 | Screw, 3/4-16 x 1-1/4” Socket Head | |
| 14 | 471214 | 2 | Grease Fitting | |
| 15 | 3007673 | 2 | Housing | |
| 16 | 132680 | 2 | Rear Roller Adjuster | |
| 17 | 3000313 | 4 | Adjusting Nut | |
| 18 | 3008359 | 1 | L.H. Front Roller Bracket | |
| 19 | 3008360 | 1 | R.H. Front Roller Bracket | |
| 20 | 207473 | 1 | R.H. Skid | |
| 21 | 207474 | 1 | L.H. Skid | |
| 22 | 412015 | 2 | Set Screw, 5/16-18 x 5/8” | |
| 23 | 554723 | 1 | Skid Shoe Wrench | |

> Change from previous revision

## 27.1 Reel Bearing Housing

Serial No. All

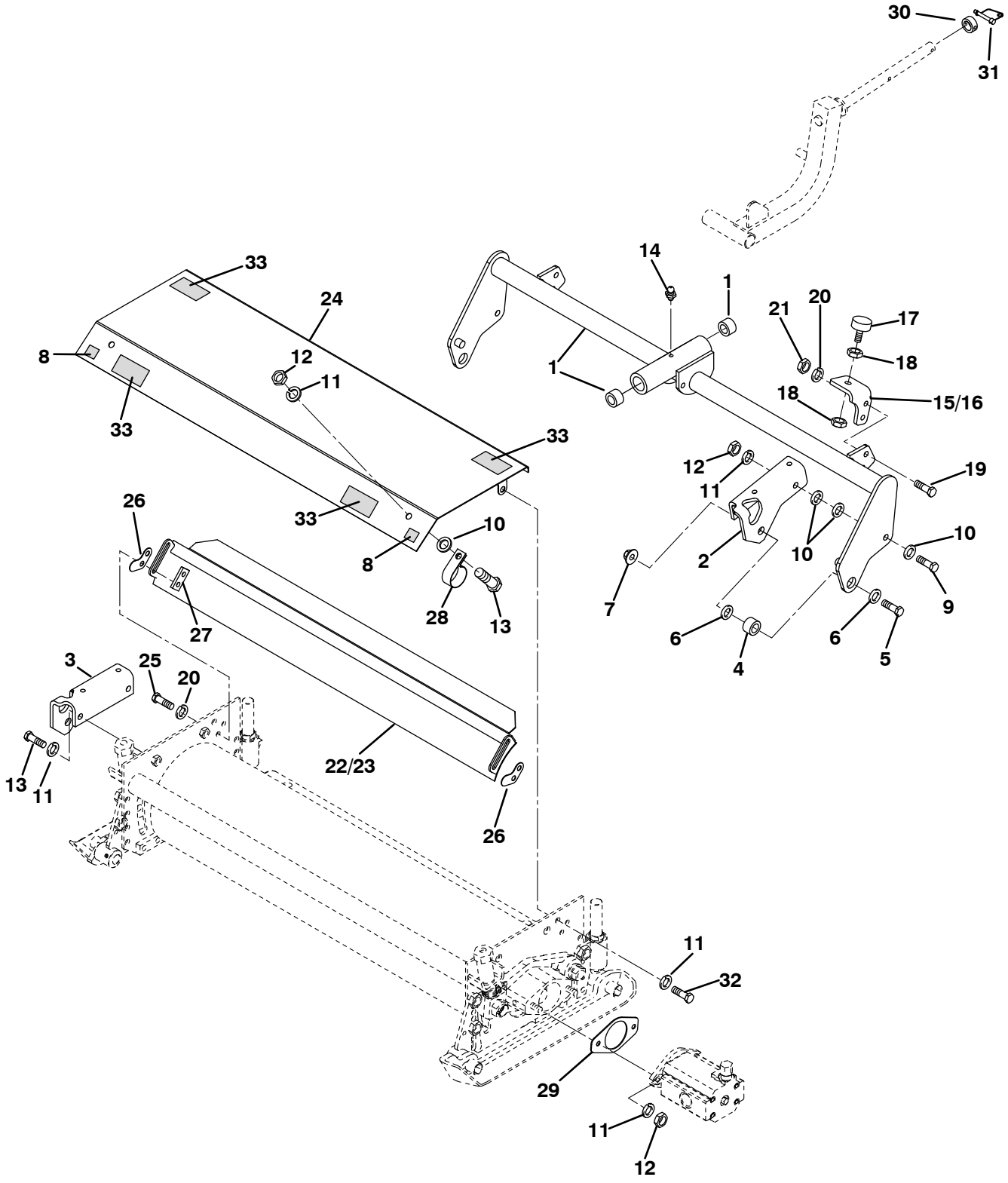


| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 5001606 | 1 | Housing | |
| 2 | 500596 | 2 | • Bearing, Cup and Cone | |
| 3 | 3000983 | 1 | • Oil Seal | |
| 4 | 3001152 | 1 | • Washer | |
| 5 | 471242 | 1 | • Relief Fitting | |
| 6 | 4128725 | 1 | • Grease Fitting | |
| 7 | 5001607 | 1 | Housing | (Includes 2 ~ 5, 8 and 9) |
| 8 | 3003086 | 2 | • Stud | |
| 9 | 471214 | 1 | • Grease Fitting | |
| 10 | 364283 | 1 | Tube, Spacer | |
| 11 | 364259 | 1 | Washer, Bearing Retainer | |
| 12 | 400264 | 2 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 13 | 446142 | 6 | Lockwasher, 3/8 Hvy | |
| 14 | 364147 | 1 | Gasket, Cover | |
| 15 | 338585 | 1 | Cover | |
| 16 | 446116 | 4 | Lockwasher, #10 | |
| 17 | 434038 | 4 | Screw, #10-24 x 1/2” | |
| 18 | 3003611 | 2 | Adjusting Nut | |
| 19 | 365995 | 2 | Washer | |
| 20 | 3004189 | 2 | Adjusting Screw | |
| 21 | 3003517 | 2 | Shoulder Bolt | |
| 22 | 3004370 | 2 | Locknut, 3/4-16 Thin Security | |
| 23 | 434031 | 2 | Screw, 1/4-20 x 3/4” Socket Head | |
| 24 | 364151 | 2 | Wave Washer | |
| 25 | 472519 | 2 | Plug | |
| 26 | 445718 | 2 | Nut, 5/8-18 Hex Stover Lock | |
| 27 | 400258 | 4 | Screw, 3/8-16 x 3/4” Hex Head | |
| 28 | 364282 | 1 | Support Plate | |
| 29 | 306828 | 2 | Washer | |
| 30 | 3003389 | 2 | Housing, Pivot Bushing | |
| 31 | 400446 | 2 | Screw, 1/2-20 x 2” Hex Head | |
| 32 | 445789 | 2 | Nut, 1/2-20 Spiralock | |
| 33 | 458039 | 1 | External Snap Ring | |
| 34 | 503684 | 1 | Motor Coupler | |
| 35 | 3005890 | 4 | Wheel Bolt | |
| 36 | 445684 | AR | Locknut | |
| 37 | 3007308 | AR | Screw | |
| 38 | 364148 | 1 | Compression Spring | |

> Change from previous revision

## 28.1 Shields and Center Pivot Arm

Serial No. All

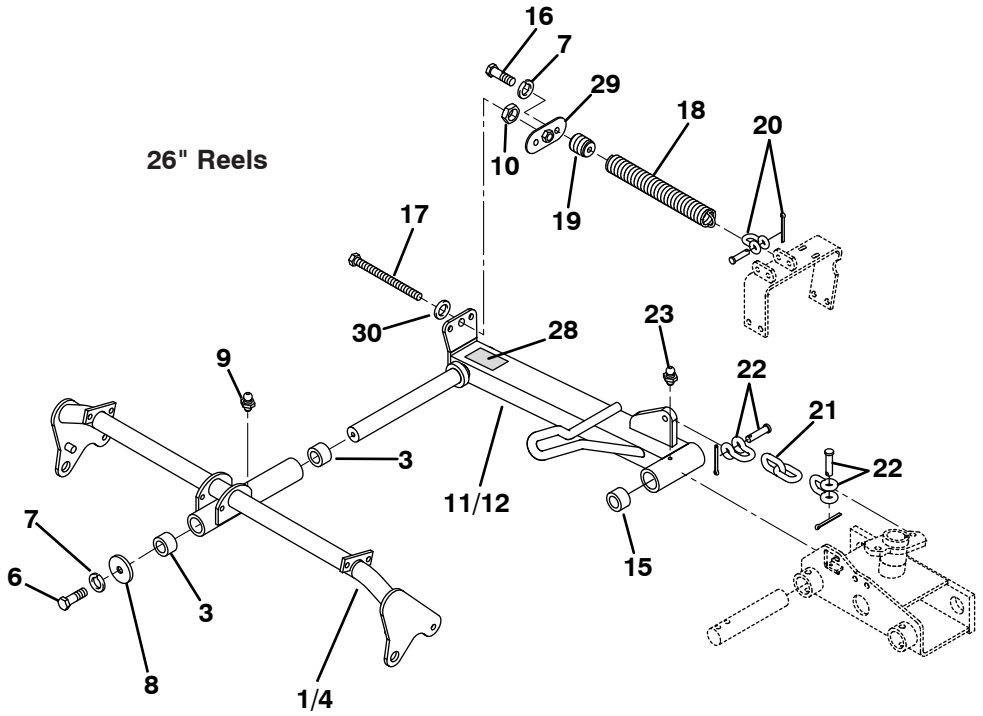


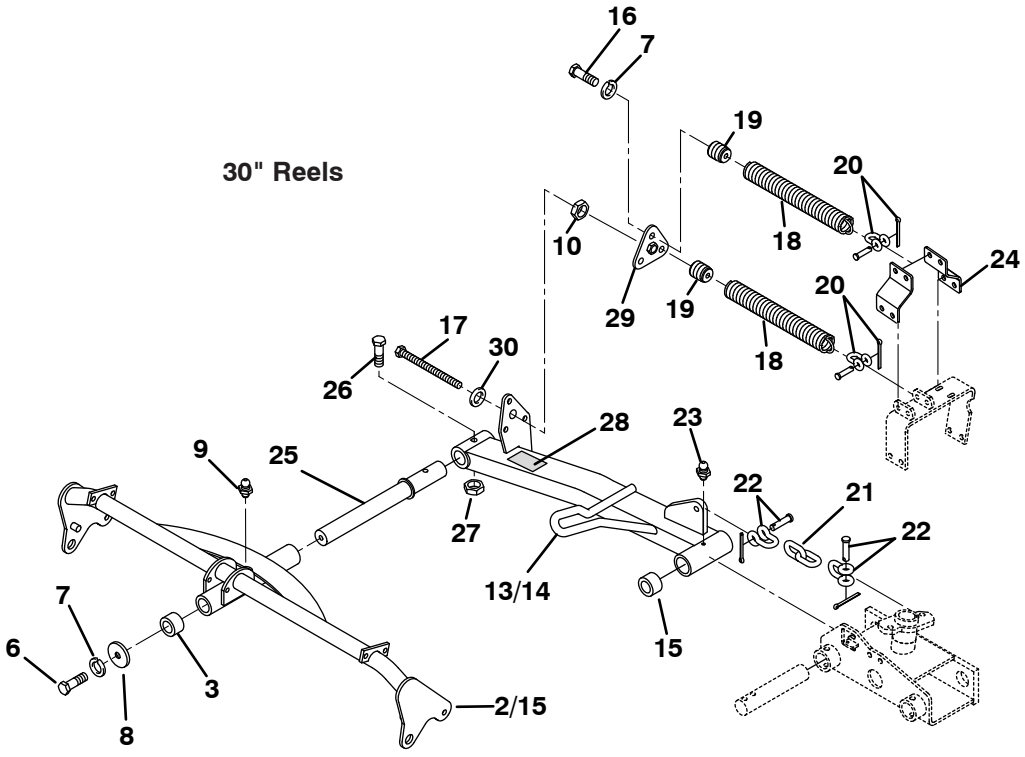
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4113759 | 1 | Center Pivot Arm | 67116 Only |
| 1 | 4113756 | 1 | Center Pivot Arm | 67125 Only |
| | 364140 | 2 | • Bushing | |
| 2 | 338561 | 1 | Reel Pivot Bracket | |
| 3 | 338562 | 1 | Reel Pivot Bracket | |
| 4 | 366827 | 2 | Pivot Spacer | |
| 5 | 400442 | 2 | Screw, 1/2-20 x 1-1/2” Hex Head | |
| 6 | 452012 | 4 | Flat Washer, 1/2 | |
| 7 | 445789 | 2 | Nut, 1/2-20 Spiralock Flange | |
| 8 | 3002379 | 2 | Decal, Tight | |
| 9 | 400264 | 2 | Screw, 3/8-16 x 1-1/4” Hex Head | |
| 10 | 453011 | AR | Washer, 3/8 | |
| 11 | 446142 | 12 | Lockwasher, Hvy | |
| 12 | 443110 | 6 | Nut, 3/8-16 Hex | |
| 13 | 400260 | 6 | Screw, 3/8-16 x 7/8” Hex Head | |
| 14 | 471214 | 1 | Grease Fitting | |
| 15 | 3002813 | 1 | Reel Bumper Bracket | 67116 & 67125 Only |
| 16 | 3002814 | 1 | Reel Bumper Bracket | 67116 & 67125 Only |
| 17 | 361723 | 2 | Rubber Bumper | 67116 & 67125 Only |
| 18 | 443810 | 4 | Nut, 3/8-16 Jam | 67116 & 67125 Only |
| 19 | 400190 | 4 | Screw, 5/16-18 x 1-1/4” Hex Head | 67116 & 67125 Only |
| 20 | 446136 | AR | Lockwasher, 5/16 Hvy | |
| 21 | 443106 | 4 | Nut, 5/16-18 Hex | 67116 & 67125 Only |
| 22 | 122875.6 | 1 | Rear Shield | 67114 & 67115 Only |
| 22 | 122769.6 | 1 | Rear Shield | 67123 & 67124 Only |
| 23 | 1003056.6 | 1 | Rear Shield | 67116 Only |
| 23 | 1003057.6 | 1 | Rear Shield | 67125 Only |
| 24 | 5003650 | 1 | Shield | 26 Inch Reels (Includes Decals) |
| 24 | 5003648 | 1 | Shield | 30 Inch Reels (Includes Decals) |
| 25 | 400186 | 4 | Screw, 5/16-18 x 7/8” Hex Head | |
| 26 | 3000718 | 2 | Shield Shim | |
| 27 | 364281 | 2 | Backup Nut | |
| 28 | 364150 | 2 | Clamp | |
| 29 | 364777 | 1 | Gasket | |
| 30 | 3002718 | 1 | Collar | 67116 & 67125 Only |
| 31 | 3005435 | 1 | Spring Lock Pin | 67116 & 67125 Only |
| 32 | 400258 | 2 | Screw, 3/8-16 x 3/4” Hex Head | |
| 33 | 361877 | 1 | Decal, Danger | 2 Used on 67116 & 67125 |

> Change from previous revision

## 29.1 Side Pivot and Lift Arms

Serial No. All



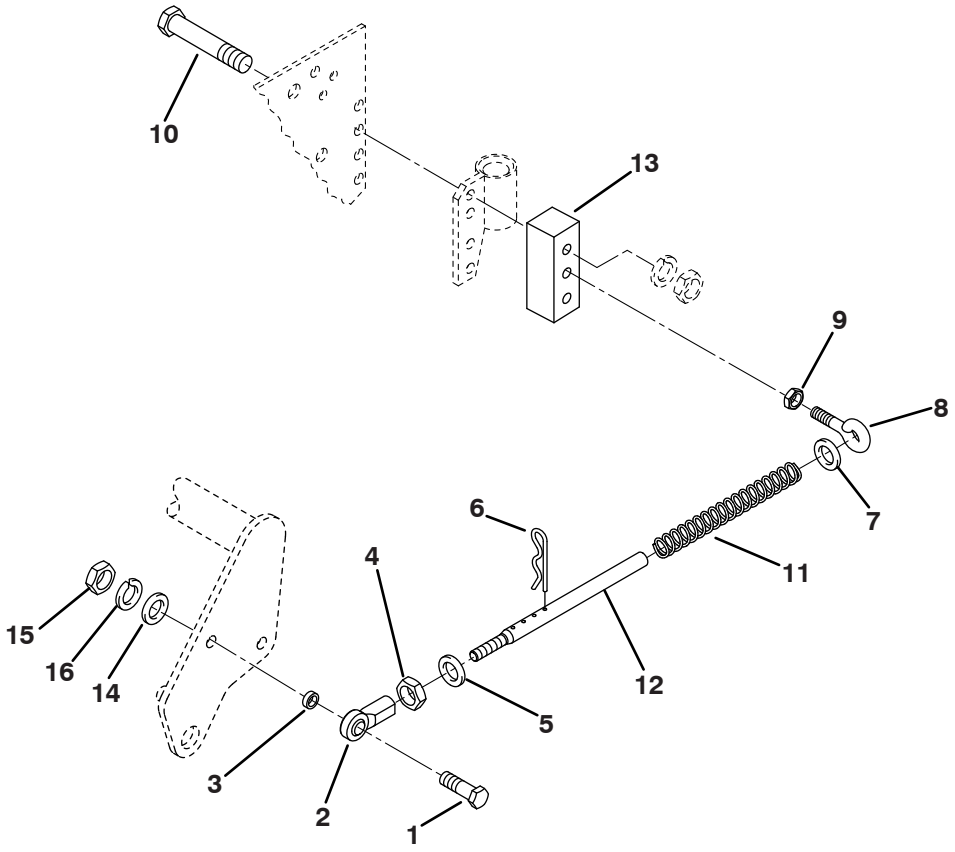
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4113757 | 1 | Right Pivot Arm | 67115 Only |
| 2 | 4113754 | 1 | Right Pivot Arm | 67124 Only |
| 3 | 364156 | 2 | • Bushing | |
| 4 | 4113758 | 1 | Left Pivot Arm | 67114 Only |
| 5 | 4113755 | 1 | Left Pivot Arm | 67123 Only |
| 6 | 400260 | 2 | Screw, 3/8-16 x 7/8” Hex Head | |
| 7 | 446142 | AR | Lockwasher, 3/8 Hvy | |
| 8 | 364781 | 2 | Retainer Washer | |
| 9 | 471214 | 2 | Grease Fitting | |
| 10 | 443118 | AR | Nut, 1/2-13 Hex | |
| 11 | 2811280 | 1 | R.H. Lift Arm | (Includes 15 & 28) - 67115 |
| 12 | 2811281 | 1 | L.H. Lift Arm | (Includes 15 & 28) - 67114 |
| 13 | 2811278 | 1 | R.H. Lift Arm | (Includes 15 & 25 ~ 28) - 67124 |
| 14 | 2811279 | 1 | L.H. Lift Arm | (Includes 15 & 25 ~ 28) - 67123 |
| 15 | 3007694 | 2 | • Bushing | |
| 16 | 400262 | AR | Screw, 3/8-16 x 1” Hex Head | |
| 17 | 441904 | 2 | Screw, 1/2-13 x 10” Full Thread Hex | |
| 18 | 364157 | AR | Spring | |
| 19 | 3007908 | AR | Plug | |
| 20 | 364160 | AR | Shackle | |
| 21 | 3004065 | 2 | Lift Chain | |
| 22 | 1001854 | 4 | Shackle | |
| 23 | 471214 | 2 | Grease Fitting | |
| 24 | 3005219 | 2 | Bracket | 67123, 67124 & 67125 Only |
| 25 | 3003041 | 2 | Shaft | 67123, 67124 & 67125 Only |
| 26 | 400272 | 2 | Screw, 3/6-16 x 2-1/4” Hex Hd | 67123, 67124 & 67125 Only |
| 27 | 444762 | 2 | Locknut, 3/8-16 | 67123, 67124 & 67125 Only |
| 28 | 361947 | 2 | Decal, Mower Removal | |
| 29 | 2811128 | 1 | Plate, Spring Mounting | 67114, 67115 & 67116 Only |
| 29 | 2811127 | 1 | Plate, Spring Mounting | 67123, 67124 & 67125 Only |
| 30 | 452012 | 2 | Washer, 1/2 | |

> Change from previous revision

## 30.1 Down Pressure Kit

Serial No. All

**Optional Kit**



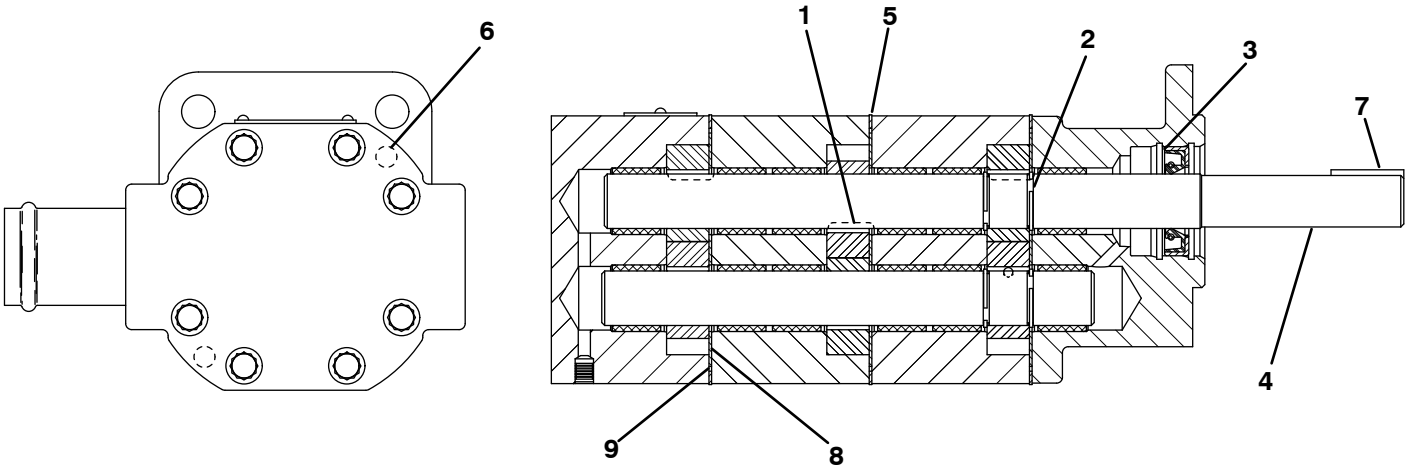

| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| | 1002588 | 1 | Down Pressure Kit | |
| 1 | 400268 | 2 | • Screw, 3/8-16 x 1-3/4” | |
| 2 | 366974 | 2 | • Rod End | |
| 3 | 364328 | 2 | • Spacer | |
| 4 | 443812 | 2 | • Nut, 3/8-24 | |
| 5 | 347935 | 2 | • Washer - Special | |
| 6 | 460312 | 2 | • Hairpin | |
| 7 | 453017 | 2 | • Washer | |
| 8 | 366978 | 2 | • Eye Bolt | |
| 9 | 443810 | 2 | • Nut, 3/8-16 Jam | |
| 10 | 400272 | 4 | • Screw, 3/8-16 x 2-1/4 | |
| 11 | 366976 | 2 | • Spring | |
| 12 | 366975 | 2 | • Tube-Down Pressure | |
| 13 | 3005136 | 2 | • Block | |
| 14 | 453011 | 2 | • Washer, 3/8 | |
| 15 | 443110 | 2 | • Nut, 3/8-16 | |
| 16 | 446142 | 2 | • Lockwasher, 3/8 | |

> Change from previous revision

Serial No. All

# 31.1 Reel Pump

**Part No. 1000970**



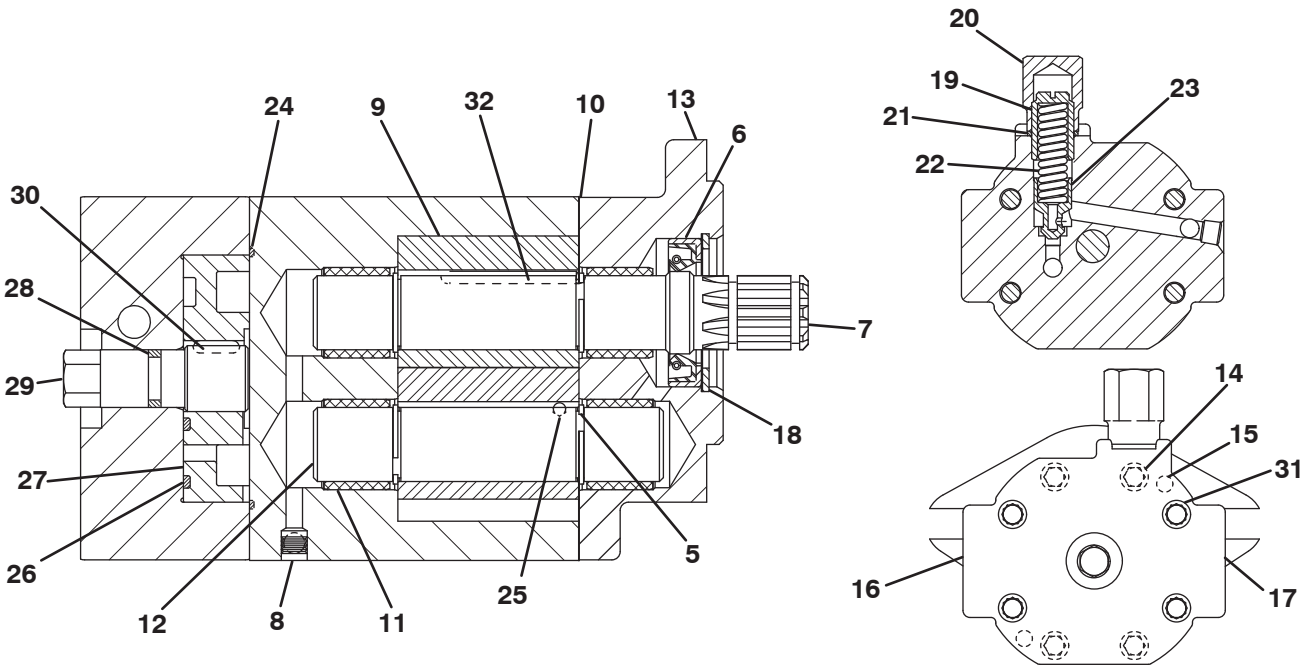

| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | N/S | 3 | Shear Pin | (Included in A) |
| 2 | N/S | 4 | Snap Ring | (Included in A) |
| 3 | N/S | 1 | Oil Seal | (Included in A) |
| 4 | 5001435 | 1 | Driveshaft | |
| 5 | N/S | 3 | Seal Plate | (Included in A) |
| 6 | 590286 | 6 | Alignment Pin | |
| 7 | 5001437 | 1 | Drive Key | |
| 8 | N/S | 3 | Wear Plate | (Included in A) |
| 9 | N/S | 3 | Diamond O-Ring | (Included in A) |
| A | 5001436 | 1 | Repair Kit | Includes 1~3, 5, 8 & 9 |

> Change from previous revision

Serial No. All

## 32.1 Reel Motor

**Part No. 1002603**



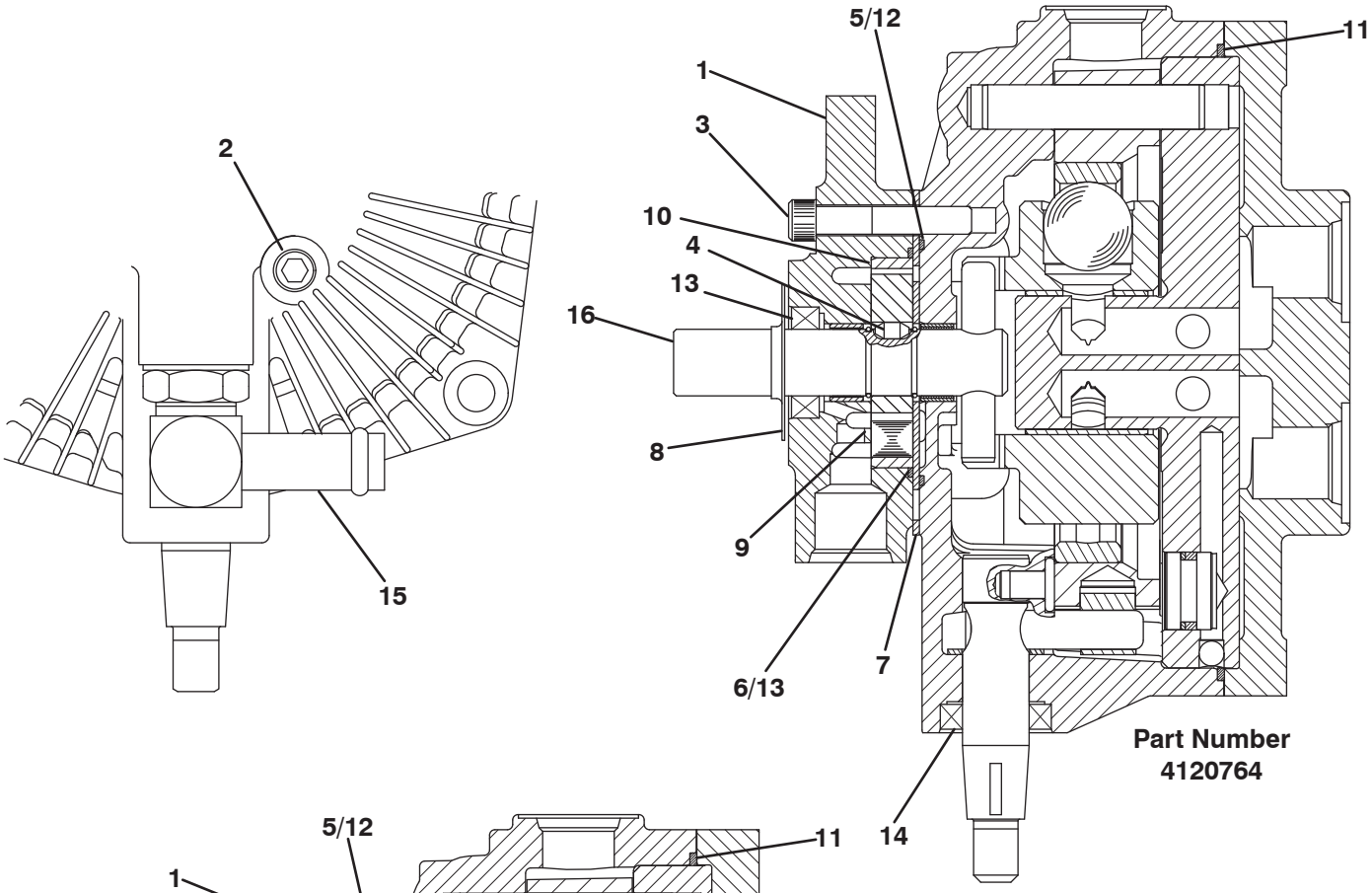
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| A | 5002657 | 1 | Seal Kit | Includes 6, 10, 18, 21, 24, 26 & 28 |
| B | 503502 | 1 | Relief Cap Kit | Includes 20 & 21 |
| C | 503503 | 1 | Relief Valve Kit | Includes 19 ~ 23 |
| D | 503504 | 1 | Valve Stem Kit | Includes 28 ~ 30 |
| 5 | 5001442 | 4 | Snap Ring | |
| 6 | 555822 | 1 | O-Ring | (Included in A) |
| 7 | 5001443 | 1 | Driveshaft | |
| 8 | 5001444 | 1 | Lee Plug | |
| 9 | 5001445 | 2 | Gear, 1-3/8” Wide | |
| 10 | N/S | 1 | .00050 (Silver) Gasket | (Included in A) |
| 10 | N/S | 1 | .00100 (Amber) Gasket | (Included in A) |
| 10 | N/S | 1 | .00075 (Gold) Gasket | (Included in A) |
| 11 | 5001446 | 4 | Sleeve Bearing | |
| 12 | 5001447 | 1 | Idler Shaft | |
| 13 | 5001448 | 1 | Stator | |
| 14 | 555828 | 4 | Screw, 1/4-20 | |
| 15 | 5001449 | 2 | Alignment Pin | |
| 16 | 5001450 | 1 | Shipping Plug | |
| 17 | 5001451 | 1 | Shipping Plug | |
| 18 | 555830 | 1 | Snap Ring | (Included in A) |
| 19 | N/S | 1 | Adjustment Screw | (Included in C) |
| 20 | N/S | 1 | Cap | (Included in B and C) |
| 21 | N/S | 1 | Copper Gasket | (Included in A, B and C) |
| 22 | N/S | 1 | Spring | (Included in C) |
| 23 | N/S | 2 | Poppet | (Included in C) |
| 24 | 5002141 | 1 | O-Ring | (Included in A) |
| 25 | N/S | 1 | Steel Ball | |
| 26 | 555836 | 1 | O-Ring | (Included in A) |
| 27 | 2501165 | 1 | Valve Plate | |
| 28 | 555833 | 2 | O-Ring | (Included in A and D) |
| 29 | N/S | 1 | Valve Stem | (Included in D) |
| 30 | N/S | 1 | Shear Pin | (Included in D) |
| 31 | N/S | 4 | Screw, 1/4-20 | |
| 32 | 5001441 | 1 | Shear Pin | |

> Change from previous revision

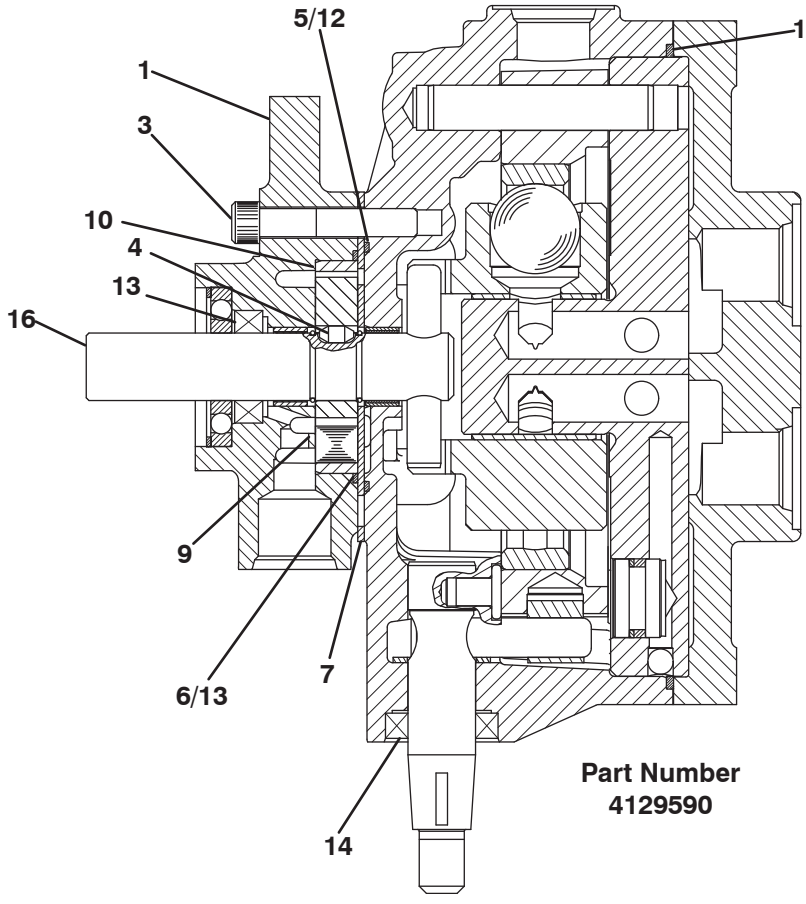
Serial No. All

## 33.1 Traction Pump

**Part No. 4120764 and 4129590**




**Part Number 4120764**




**Part Number 4129590**

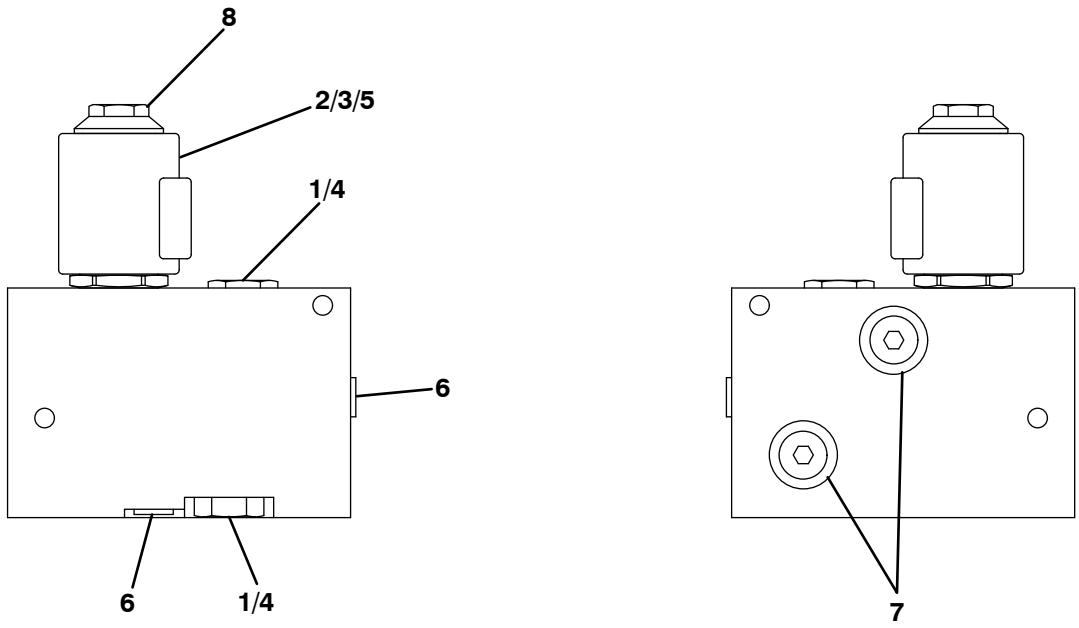
| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| A | 502664 | 1 | Charge Pump Kit | Part Number 4120764 |
| A | 4132078 | 1 | Charge Pump Kit | Part Number 4129590 |
| 1 | N/S | 1 | • Charge Pump | |
| 2 | N/S | 4 | • Screw, Socket Head | |
| 3 | N/S | 1 | • Screw, Socket Head | |
| 4 | 4120217 | 1 | • Drive Pin | |
| 5 | N/S | 1 | • Square Cut Seal | Also included in B |
| 6 | N/S | 1 | • Square Cut Seal | Also included in B |
| 7 | N/S | 1 | • Pump Plate | |
| 8 | 546416 | 1 | • Grass Shield | Part Number 4120764 Only |
| 9 | N/S | 2 | • Snap Ring | |
| 10 | 4120216 | 1 | • Carrier | |
| B | 2500620 | 1 | Oil Seal Kit | (Included in B) |
| 11 | N/S | 1 | • Square Cut Seal | (Included in B) |
| 12 | N/S | 1 | • Square Cut Seal | (Included in B) |
| 13 | N/S | 1 | • Square Cut Seal | (Included in B) |
| 14 | N/S | 2 | • Oil Seal | Includes 11 ~ 14 |
| 15 | 361631 | 1 | Fitting, 90° Barb | |
| 16 | 4112141 | 1 | Input Shaft | Part Number 4120764 |
| 16 | N/S | 1 | Input Shaft | Part Number 4129590 |

> Change from previous revision

## 34.1 3WD Valve

Serial No. All

**Part No. 4111942**



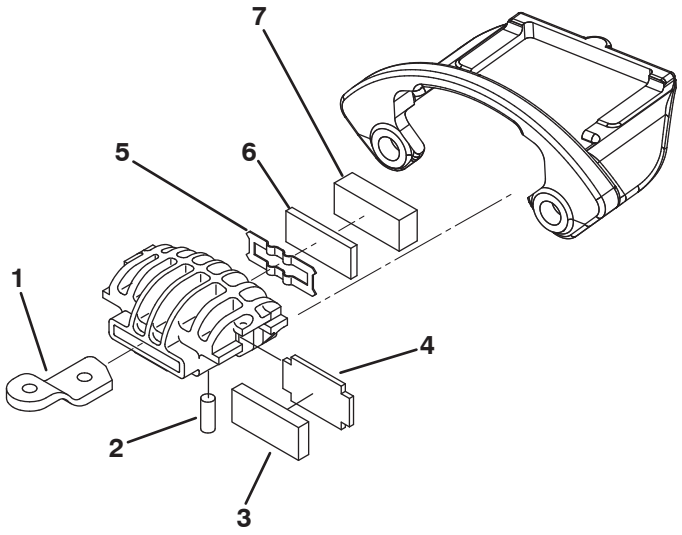

| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | 4113025 | 2 | Check Valve | |
| 2 | 4113026 | 1 | Spool Valve | |
| 3 | 4113027 | 1 | Solenoid Coil | Reference **K6** |
| 4 | 5003578 | 2 | Seal Kit, Check Valve | |
| 5 | 5003579 | 1 | Seal Kit, Spool Valve | |
| 6 | 5002157 | 2 | Port Plug | |
| 7 | 5001065 | 2 | Port Plug | |
| 8 | 4113028 | 1 | Nut, Coil | |

> Change from previous revision

Serial No. All

## 35.1 Brake Calipers

**Part No. 1001634 L.H.**
**Part No. 1001635 R.H.**

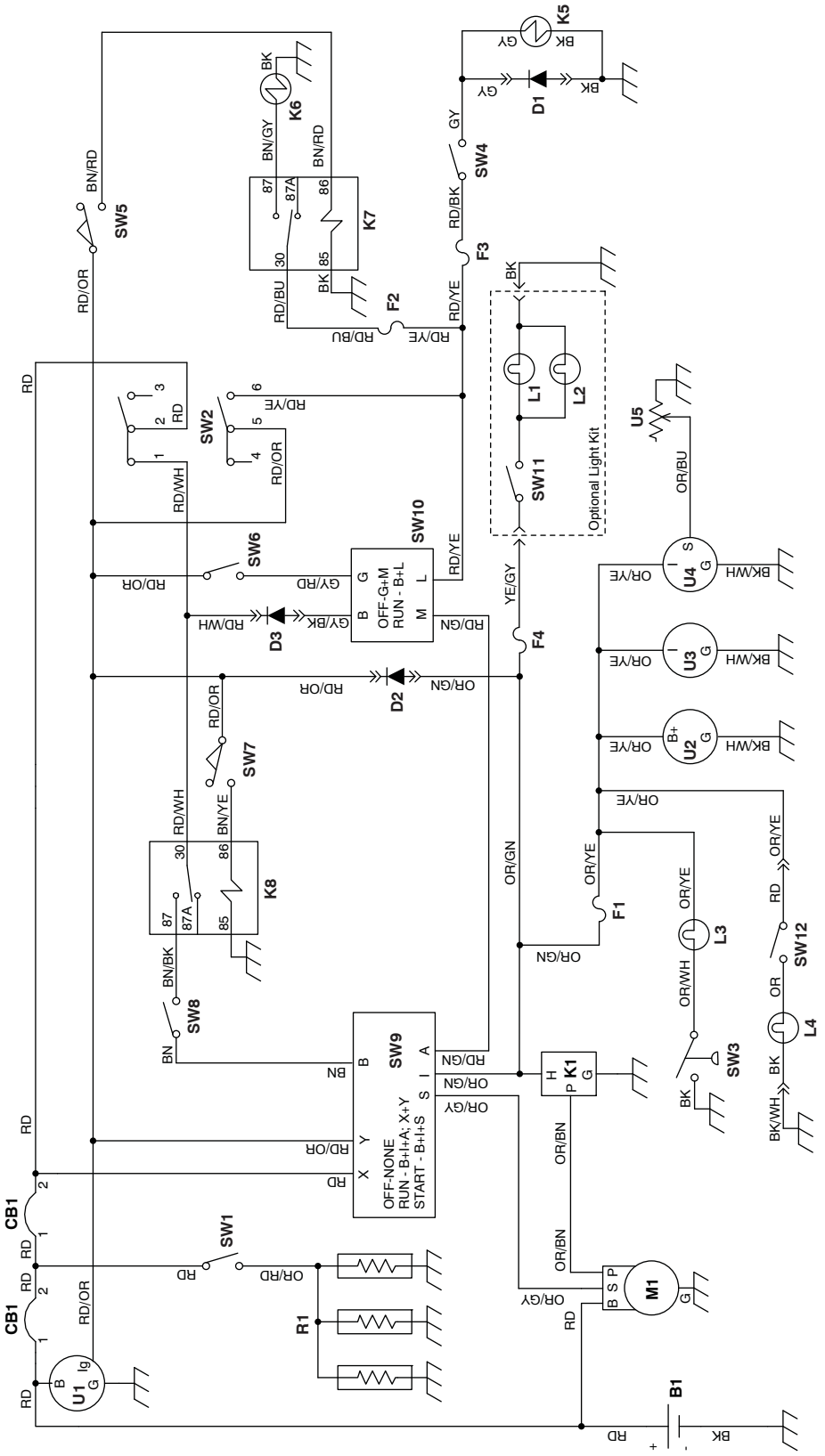



| Item | Part No. | Qty. | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| 1 | N/S | 1 | Cam | R.H. |
| 1 | N/S | 1 | Cam | L.H. |
| 2 | 557823 | 1 | Pivot Pin | |
| 3 | 503660 | 1 | Carrier Side Pad | |
| 4 | 557824 | 1 | Pad Support | |
| 5 | 557825 | 1 | Lever Retainer Spring | |
| 6 | 557826 | 1 | Pad Support | |
| 7 | 503660 | 1 | Cam Side Pad | |

> Change from previous revision

## 36.1 Electrical Schematics

Serial No. All

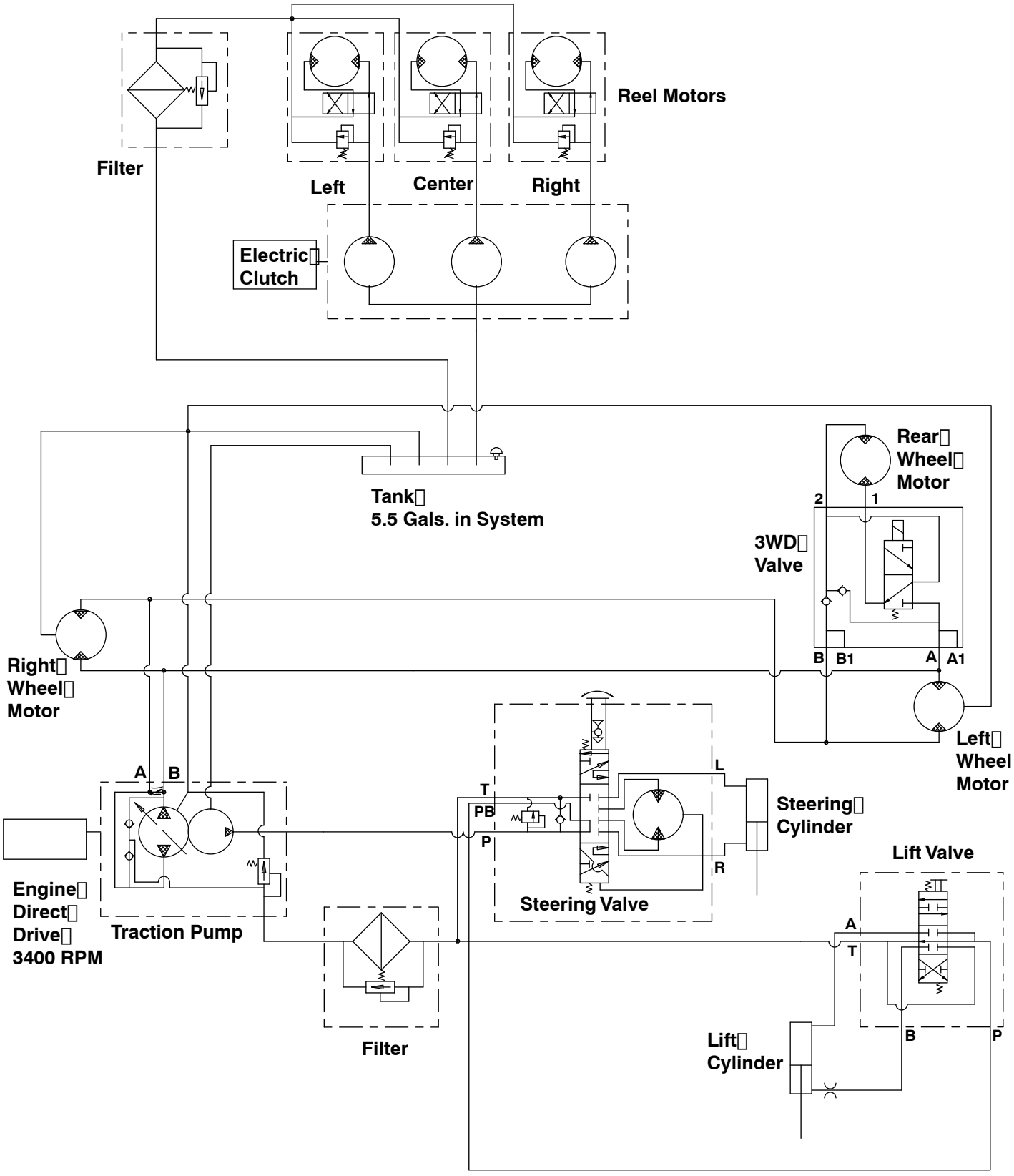


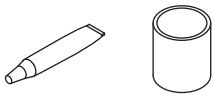
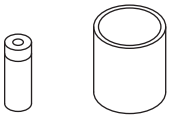
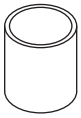
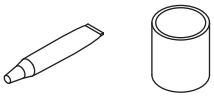
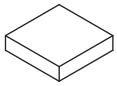
| Item | Reference Illustration | Part Number | Description | Serial Numbers/Notes |
|---|---|---|---|---|
| **B1** | | NS | Battery | |
| **CB1** | See 17.1 | 3000359 | 50 Amp Circuit Breaker | Diesel Units Only |
| **CB2** | See 5.1 | 338601 | 10 Amp Circuit Breaker | |
| **D1** | Not Shown | 555846 | Clutch Diode | Included in Wire Harness |
| **D2** | Not Shown | 555846 | Seat Switch Diode | Included in Wire Harness |
| **D3** | Not Shown | 555846 | Backlap Diode | Included in Wire Harness |
| **F1** | See 4.1 | 5003276 | Gauge Circuit, 3 Amp Fuse | Installed in Fuse Block |
| **F2** | See 4.1 | 5003276 | 3WD Circuit, 3 Amp Fuse | Installed in Fuse Block |
| **F3** | See 4.1 | 5003279 | Clutch Circuit, 7.5 Amp Fuse | Installed in Fuse Block |
| **F4** | See 4.1 | 5003279 | Light Circuit, 7.5 Amp Fuse | Optional, Installed in Fuse Block |
| **K1** | See 9.1 | 338289 | Fuel Solenoid | |
| **K2** | Not Used | | | |
| **K3** | Not Used | | | |
| **K4** | Not Used | | | |
| **K5** | Not Shown | NS | Clutch Solenoid | Included in Part No. 2809727 |
| **K6** | See 34.1 | 5001354 | 3WD Solenoid | |
| **K7** | See 9.1, 9.1 | 3001307 | 3WD Relay | |
| **K8** | See 9.1, 9.1 | 3001307 | Neutral Relay | |
| **L1** | Not Shown | NS | Optional Light | Included in Product 69149 |
| **L2** | Not Shown | NS | Optional Light | Included in Product 69149 |
| **L3** | See 5.1 | 164194 | Oil Pressure Warning Light | |
| **L4** | See 5.1 | 366751 | Parking Brake Light | |
| **M1** | Not Shown | NS | Starter Motor | Included in Engine |
| **R1** | Not Shown | NS | Glow Plugs | Included in Engine |
| **SW1** | See 5.1 | 363961 | Glow Plug Switch | |
| **SW2** | See 5.1 | 3001780 | Reel Control/3WD Switch | |
| **SW3** | Not Shown | 554018 | Engine Oil Pressure Switch | Included in Engine |
| **SW4** | See 24.1 | 5000183 | Reel Limit Switch | |
| **SW5** | See 8.1 | 3007392 | 3WD Proximity Switch | |
| **SW6** | See 3.1 | 554390 | Seat Switch | Serial No. 1601~4743 |
| **SW6** | See 3.2 | 4139450 | Seat Switch | Serial No. 4744 & Up |
| **SW7** | See 8.1 | 3007392 | Neutral Proximity Switch | |
| **SW8** | See 8.1 | 3002056 | Parking Brake Switch | |
| **SW9** | See 5.1 | 1001958 | Ignition Switch | |
| **SW10** | See 5.1 | 1001010 | Backlap Switch | |
| **SW11** | Not Shown | NS | Optional Light Switch | Included in Product 69149 |
| **SW12** | See 8.1 | 3002056 | Parking Brake Light Switch | |
| **U1** | Not Shown | NS | Alternator | Included in Enigne |
| **U2** | See 5.1 | 162721 | Volt Meter | |
| **U3** | See 5.1 | 162723 | Hour Meter | |
| **U4** | See 5.1 | 162720 | Temperature Gauge | |
| **U5** | See 13.1 | 364901 | Termperature Sender | |

> Change from previous revision

## 37.1 Hydraulic Schematic

Serial No. All

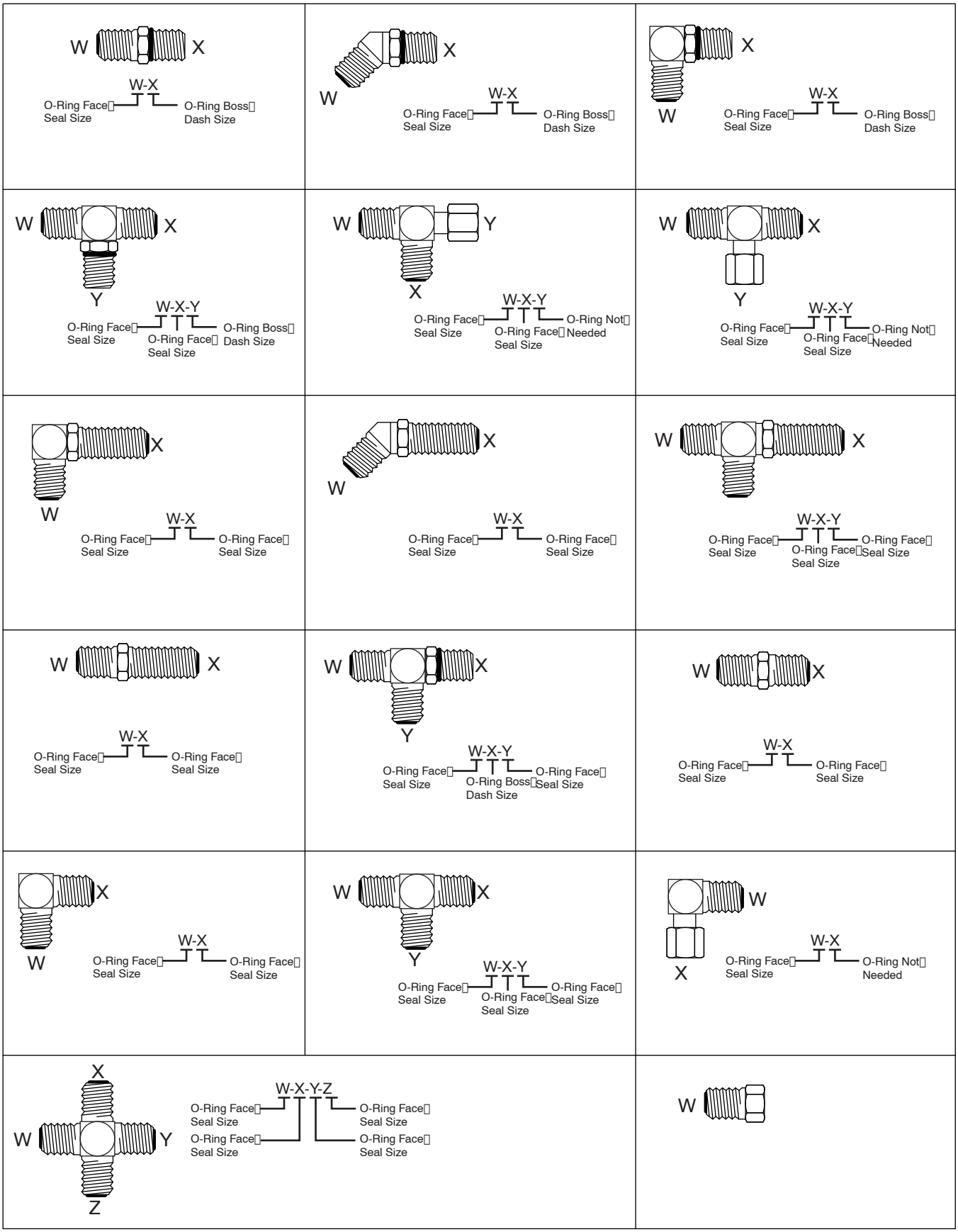


| | | |
|---|---|---|
| | **Hydraulic Fluid*** | |
| 5001405 | Two 2-1/2 Gallon Container of ISO VG68 Oil | |
| 5001404 | One 5 Gallon Pail of ISO VG68 Oil | |
| 2500548 | Two 2-1/2 Gallon Container of 10W30 Oil | |
| 2500546 | One 5 Gallon Pail of 10W30 Oil | |
| 503409 | Two 2-1/2 Gallon Container of ATF Fluid | |
| 503407 | One 5 Gallon Pail of ATF Fluid | |
| | **2-Cycle Oil** | |
| 554600 | Twenty Four 16 Ounce Plastic Container | |
| 554599 | Twenty Four 8 Ounce Plastic Container | |
| | **Grease** |  |
| 5000067 | One 5 Gallon Pail OO-Grease | |
| 5000068 | Twenty Four 8 Ounce Tube OO-Grease | |
| | **Paint** |  |
| 5003469 | 16 Ounce Gray Aerosol | |
| 554598 | Six 12 Ounce Orange Aerosol | |
| 2500789 | Twelve 1 Quart Can Orange | |
| 546409 | Two 1 Gallon Can Orange | |
| | **Lapping Compound** |  |
| 5002488 | One 10 Pound Pail of 80 Grit | |
| 5002490 | One 25 Pound Pail of 80 Grit | |
| 5002489 | One 10 Pound Pail of 120 Grit | |
| 5002491 | One 25 Pound Pail of 120 Grit | |
| | **Specialty Compound** |  |
| 365422 | 5.3 Ounce Tube of Electrical Insulating Gel | |
| 5001581 | 14 Ounce Can of Lubriplate Multi Lube A | |
| | **Biodegradable Hydraulic Fluid*** | |
| 5003102 | One 55 Gallon Drum Jacobsen GreensCare 68 | |
| 5003103 | One 5 Gallon Pail Jacobsen GreensCare 68 | |
| 5003105 | One 55 Gallon Drum Jacobsen GreensCare 46 | |
| 5003104 | One 5 Gallon Pail Jacobsen GreensCare 46 | |
| 4115976 | One 55 Gallon Drum Jacobsen GreensCare 32 | |
| 4115977 | One 5 Gallon Pail Jacobsen Greens Care 32 | |
| 5003106 | Twenty Four 14 Ounce Tube Greens Care Grease | |
| | **O-Ring Kit** |  |
| 5002452 | SAE O-Ring Boss (3/32 ~ 2" Tube O.D.) | |
| 5002453 | Common O-Ring Kit | |
| 5002454 | O-Ring Face Seal ORFS (-4 ~ -24 ORS Tube Size) | |
| | **Right Start Kit for New Machines** | |
| | See your local Jacobsen Dealer | |
| | **On-Time Maintenance Kit** | |
| | See your local Jacobsen Dealer | |

* Refer to the Operator's manual or the Parts & Maintenance Manual for the correct hydraulic oil requirements for your machine. Jacobsen offers a High Usage Parts Catalog illustrating commonly used Parts through easy to read line Drawings. See your local Jacobsen Dealer for a copy.

# 38.1 O-Ring Chart

Serial No. All



| Adapter Part Number. | Dash Size | Adapter Type | (W) O-Ring | (X) O-Ring | (Y) O-Ring | (Z) O-Ring |
|---|---|---|---|---|---|---|
| 339972 | 4-4 | Straight Adapter | 339908 | 339896 | | |
| 339974 | 4-6 | Straight Adapter | 339908 | 339897 | | |
| 339979 | 6-6 | Straight Adapter | 339909 | 339897 | | |
| 339980 | 6-8 | Straight Adapter | 339909 | 339898 | | |
| 339983 | 8-6 | Straight Adapter | 339910 | 339897 | | |
| 339989 | 10-10 | Straight Adapter | 339911 | 339899 | | |
| 340055 | 4-4 | 90° Adapter | 339908 | 339896 | | |
| 340057 | 4-6 | 90° Adapter | 339908 | 339897 | | |
| 340061 | 6-6 | 90° Adapter | 339909 | 339897 | | |
| 340062 | 6-8 | 90° Adapter | 339909 | 339898 | | |
| 340068 | 8-12 | 90° Adapter | 339910 | 339900 | | |
| 340070 | 10-10 | 90° Adapter | 339911 | 339899 | | |
| 340088 | 4-6 | 90° Adapter | 339908 | 339897 | | |
| 340120 | 4-4-4 | Swivel Run Tee | 339908 | 339908 | | |
| 340121 | 6-6-6 | Swivel Run Tee | 339909 | 339909 | | |
| 340265 | 10-10-10 | Straight Thread Run Tee | 339911 | 339899 | 339911 | |
| 340376 | 8-8 | 90° Swivel Adapter | 339910 | | | |

| SAE Boss O-Rings | | | ORS Face Seal O-Rings | | |
|---|---|---|---|---|---|
| Dash Size | Thread Size | O-Ring | Dash Size | Thread Size | O-Ring |
| 4 | 7/16-20 | 339896 | 4 | 9/16-18 | 339908 |
| 6 | 9/16-18 | 339897 | 6 | 11/16-16 | 339909 |
| 8 | 3/4-16 | 339898 | 8 | 13/16-16 | 339910 |
| 10 | 7/8-14 | 339899 | 10 | 1-14 | 339911 |
| 12 | 1 1/16-12 | 339900 | 12 | 1 3/16-12 | 339912 |
| 16 | 1 5/16-12 | 339901 | 16 | 1 7/16-12 | 339913 |
| 20 | 1 5/8-12 | 339902 | 20 | 1 11/16-12 | 339914 |
| 24 | 1 7/8-12 | 339903 | 24 | 2-12 | 339915 |
| 32 | 2 1/2-12 | 339904 | | | |

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